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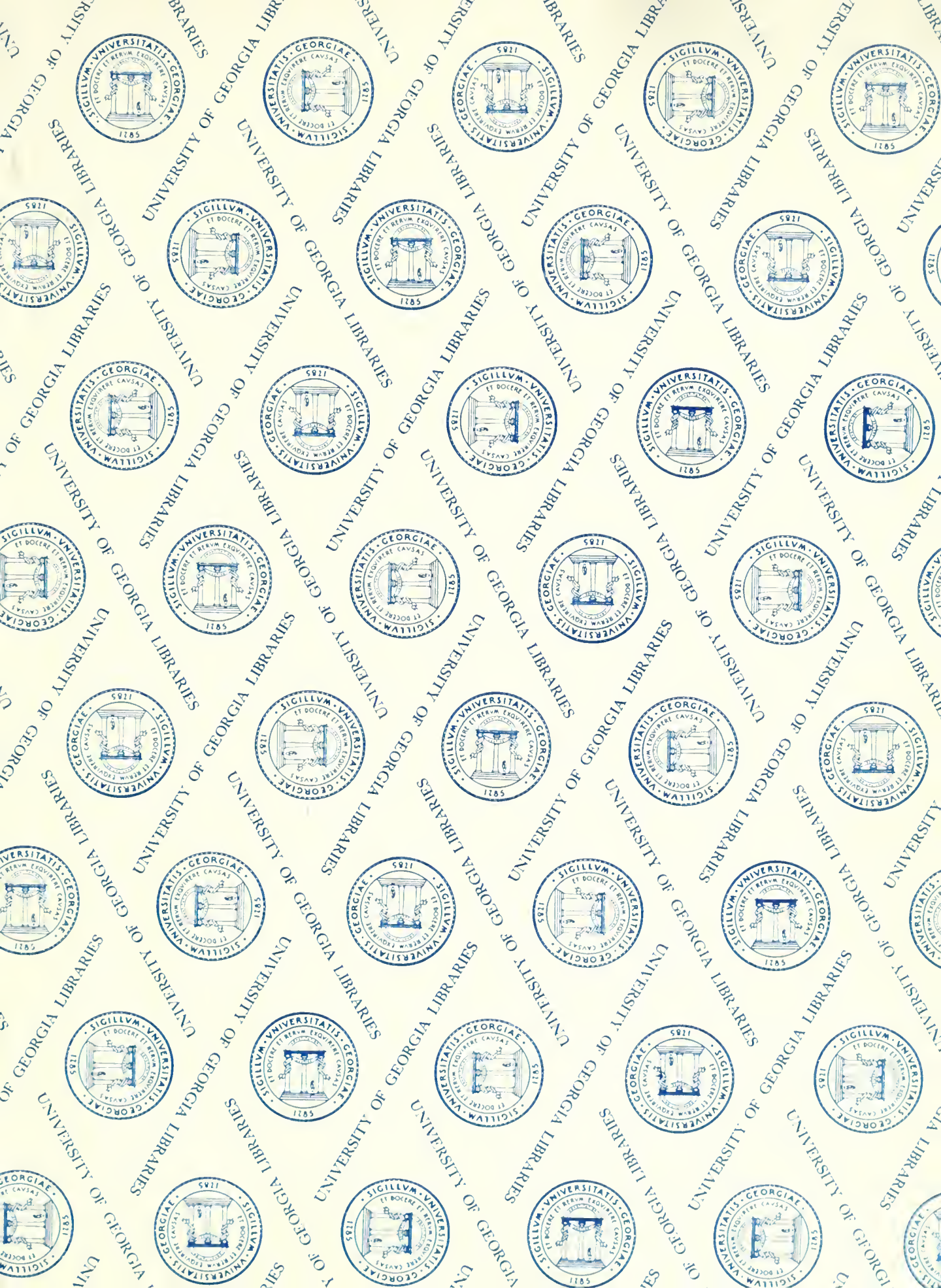
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MANAGEMENT AND OPERATIONS
of the
GEORGIA GAME AND FISH DEPARTMENT

A Report by Its Special Team of Consultants
Under the General Supervision of
Conservationist Seth Gordon to the
Georgia Game and Fish Commission

In Cooperation With the

Governor's Commission for Efficiency
and Improvement in Government

Atlanta, Georgia
February 27, 1964

LETTER OF TRANSMITTAL

Honarable Charles L. Davidson, Jr.
Chairman
Game and Fish Cammission
Atlanta, Georgia

Dear Chairman Davidsan:

We herewith respectfully submit ta you and yaur calleagues af the Game and Fish Cammissian the campasite repart af the findings and recommendatians af the Consultant Team which yau emplayed ta make a camprehensive study af the operations of the Geargia Game and Fish Cammissian and the Department, and ta recammend improvements in said aperations as well as ta suggest pragrams which the Game and Fish Cammissian shauld adopt.

The team cansisted af Dr. Albert S. Hazzard af New Yark; I. T. Quinn af Alabama; Howard T. Lee af Texas; Laurence R. Jahn, af the Wildlife Management Institute af Washingtan, D. C., statianed in Wiscansin; Richard F. Postan, Divisian af Water Supply and Pallutian Cantral, U. S. Public Health Service, af Oregan; Raland F. Smith, Bureau af Cammercial Fisheries, U. S. Fish and Wildlife Service, Washingtan, D. C.; and the writer, who served as team captain.

Mr. Lee was kindly released to Georgia by the Parks and Wildlife Department af Texas to participate in the survey; Messrs. Jahn, Poston, and Smith were generausly made available to Georgia with little or na cast by their respective agencies. The remaining members af the graup are farmer game and fish administratars with lang years af experience in the canservation field.

In conducting the survey the team had the full caaperatian af the Members of the Game and Fish Cammissian, the employees of the Game and Fish Department, the variaus Federal and State agencies that have an interest in Geargia's Game and Fish Program, and many athers too numeraus ta mentian.

The team is especially indebted to the Gavernor's Commissian far Efficiency and Improvement in Government, and ta its Executive Directar, Dr. Marris W. H. Callins, Jr., and its Staff Secretary, Radman Porter, for their very generaus assistance in the develapment af the autlines far the prapased study and for their able guidance and participatian thraughout. We alsa gained substantially fram the research assistance af Mr. Jaseph Curtin and Charles Pyles.

Thraughaut the survey a concerted effart was made ta da an abjective evaluatian and ta make impersonal suggestians, and especially ta avaid becoming invalved in past cantroversies or possible errors af judgment. Our primary cancern throughout has been ta help develop a Game and Fish Program for Geargia that will be appraved and vigarously supparted by all Georgia citizens who are interested in enhancing the future af her great autdoors.

Atlanta, Georgia
February 27, 1964

Respectfully submitted,

Seth Gordon
Seth Gardan, Conservatian Consultant

Albert S. Hazzard
Albert S. Hazzard, Inland Fisheries

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U. S. Public Health Service

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A WORD ABOUT THIS REPORT

In the Report Transmittal from the Consultant Team the special assignment of each consultant is indicated in the signature line. In addition to his special assignment, however, each team member contributed facts and suggestions which related to the work of other members of the team and to such general topics as organization, personnel practices, revenue deficiencies, etc.

This report consists of ten chapters. Chapter I is a summary, prepared by the general consultant, Mr. Seth Gordon. For convenience, Mr. Gordon has followed the sequence of the remaining chapters in summarizing the findings and recommendations of the Consultant Team. He starts with Chapter II and then proceeds with the summarization of successive chapters in sequence. To permit the reader to check more fully on items of special interest, he has indicated chapter number and title immediately preceding his summary of recommendations for each chapter.

Chapters II, III, and IV incorporate the work of the entire consultant team on the general topics, respectively, of history, functions, and organization; selected administrative practices of the Department; and revenue sources and Department needs. In a number of instances, materials have been extracted from discussions originally submitted by specialists dealing with another subject and incorporated in one of these three chapters.

Chapters V, VI, VII, VIII, IX, and X are the work, respectively, of one or another of the special consultants in the Consultant Team. In each instance, these chapters have been carefully reviewed by the general consultant and modified to a minor degree to take into account work done by other members of the team. In addition, each chapter was edited to fit a standard report form: background, problems or findings, and recommendations. In every instance, however, the special consultant who drafted the original chapter has approved the chapter as it appears in this report.

* * * * * * * * *

This highly competent study was made under the general guidance of the Governor's Commission for Efficiency and Improvement in Government. In general, the Commission agrees with the findings and proposals of this report by the Consultant Team. In a few matters the Commission does adopt a somewhat different position.

To express its views more precisely, the Commission has prepared a separate, summary report, entitled, **Georgia Game and Fish Department, Its Management and Operations.**

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I. SUMMARY OF FINDINGS AND CONCLUSIONS OF THE CONSULTANT TEAM

Georgia's game, fish, recreational, and other natural resource potentials are unexcelled by any state in the nation. Georgia has the modern highways and the accommodations to encourage her own citizens to appreciate and enjoy to the fullest her natural outdoor assets, including inspiring scenery and a wide variety of outdoor activities. These facilities also will attract a constantly increasing flow of tourist dollars into the State's economy if Georgia improves and maintains at a level appropriate to their potentials her outdoor resources such as her hunting, fishing, boating, camping, and other opportunities for more satisfying living.

In order to assure the maximum benefit of these resource potentials for her citizens and for her neighbors who come to enjoy them, Georgia must upgrade its programs for the development and maintenance of these resources; it must revise old concepts for developing and maintaining these resources; and it must adopt and diligently support new and effective long-term planning.

To accomplish these objectives, the Georgia program needs imaginative and aggressive leadership. It needs rejuvenated, modernized, and re-oriented administrative organization. It needs encouraged and involved Department employees. It needs a completely revamped pattern of operating policies and procedures. And to get these, the means to the desired goals, the Department must have far more adequate financial and public support.

CHAPTER II. HISTORY, FUNCTIONS, AND ORGANIZATION

During its first 20 years the State's game and fish agency underwent three major reorganizations. Since 1943, however, it has operated under the present structural framework which was established by statute and then, in effect, ratified by approval in the same year of constitutional provisions establishing the Game and Fish Commission. In these last 21 years the Department has continued to have difficulties, but has avoided until now the traumatic experience of reorganization.

The Game and Fish Commission is an 11-member body, consisting of one member from each congressional district plus one member from the counties which border the Atlantic Ocean. These eleven men are appointed by the Governor and confirmed by the Senate to seven year, overlapping terms, with the term of one or more members expiring each year.

Powers of the Commission are prescribed by statutes. The Commission has been given ample powers to meet most of its responsibilities for research, planning, acquisition and development of land and facilities for hunting and fishing, conservation of fish and wildlife, enforcement of statutes and regulations on game and fish and boating recreation, and information to the public concerning outdoor opportunities made available through work of the Department.

As described in subsequent chapters, the Georgia Department has many problems. A large part of Georgia's game and fish program troubles stem from failure by both the Commission and the Department staff to adopt and adhere to firm policies and programs. Moreover, the public has not been kept informed, proffers of public assistance have apparently been shunted aside, and cooperation from landowners in meeting needs for public hunting and fishing areas have not been encouraged by adequate advocacy of necessary legislation to encourage such cooperation.

Due to internal communications failures, a large percentage of Department employees, especially among those assigned to field operations, have operated in a vacuum. Most employees have only a hazy conception of Commission policies, partly because policies have neither been clearly enunciated nor made available to them and partly because policies have been changed so frequently and erratically and without due consideration of the effects of changes on related policies or of implications upon field operations.

In the past, at least not before 1963, the Georgia Game and Fish Commission has not usually assumed its full share of the responsibility for the success, or failure, of the State's Game and Fish Program. Neither has it adopted and maintained firm policies and programs.

The Department generally has not been blessed with adequate administrative leadership. It has lacked adequate planning. It has lacked adequate money to do the job for which it is responsible. It has not had an adequate number of properly trained and equipped law enforcement employees, and it has suffered from serious deficiencies in the number of biologists available for planning and carrying out its game and fish management and marine fish management programs.

Notwithstanding these and other problems described in this Report, a high degree of loyalty and dedication is generally evident among employees. With proper leadership they constitute the nucleus around which a new, more effective Department can be built, provided:

(1) Modern, long-term policies and programs, as recommended in this Report are adopted and adhered to by the Commission; and

(2) The Department's programs are given adequate FINANCIAL support; and

(3) The Department's programs are energetically supported by the general public, especially the sportsmen and others who enjoy the great outdoors.

Recommendations in Chapter II

1. It is recommended that the Commission immediately review and modernize its own operating procedures and that in the future it fully assume its primary functions of policy-making, program review and approval, budgetary responsibilities, and regulatory activities.

2. The development of policies, long-term programs, and improved administrative machinery should receive the Commission's attention immediately after it appoints a permanent Director, who should be a person with broad professional training, experience in the conservation field, and demonstrated administrative ability. He should be free from political entanglements.

3. The Commission should immediately seek General Assembly approval for statutory authority to set the compensation of the director, with prior approval of the Budget Director, at a rate comparable to the salary paid the heads of other major state agencies. The present statutory salary is seriously inadequate. The Commission cannot recruit a suitable director unless adequate compensation can be provided.

4. It is recommended that in the future the Commission more actively function as the buffer between the director and the administrative staff, on the one hand, and the General Assembly, the general public, and other agencies, on the other hand.

5. After the permanent director has been employed, it is recommended that the Commission proceed to assist the director in initiating and implementing the suggested reorganization program outlined in Chapter II, consider and act upon his recommendations of persons to fill key positions and his schedule for implementing the successive steps toward reorganization, and provide full support for actual implementation.

III. SELECTED ADMINISTRATIVE SERVICES

A study of the past practices with reference to personnel selection, compensation, management, and promotional opportunities leaves much to be desired.

1. It is recommended that the Commission instruct the new director to see to it that sound merit system policies are adhered to in the future.

2. Before shifting to the new organization a review of position classifications should be made to correct existing misclassifications and to classify properly the new positions to be created under the proposed organization plans.

3. It is recommended that the Commission instruct the director and his subordinates to see to it that regular performance ratings are submitted by all supervisory personnel, preferably every six months, as one step to better personnel management.

4. It is recommended that pay scales be reviewed and upgraded as needed to assure the retention of capable, dedicated employees and to obtain the best possible personnel to fill vacancies.

5. It is recommended that a study be made of the compensatory time off for employees who must be on duty over weekends and holidays and that steps be taken to correct any inequities. Game and Fish employees deserve the same treatment as other public employees.

6. It is recommended that the training and promotional system of the Department be reviewed critically and that the Commission insist upon adherence to a uniform policy for all employees.

7. It is recommended that an in-service training program be established on a continuing basis. As part of this program a POLICY & OPERATIONS MANUAL should be developed as promptly as possible for the use of all employees to assure more uniformity in operations.

The Information and Education program of a game and fish agency is important for many reasons. The public cannot fully benefit from the Department programs unless it is aware of its opportunities, the restrictions which apply such as seasons and limits on game or fish to be taken, activities which are expected to lead to better programs in the future, present handicaps, and general information on wildlife. A good "I & E" program can provide this needed information and understanding.

8. It is recommended that the Information and Education Program of the Department be reviewed and that a comprehensive program be reactivated and maintained at the earliest possible date. As part of this program it is recommended that consideration be given to the printing and distribution of a well-written monthly magazine on a subscription basis to defray the major part of the cost; also that various other media for keeping the employees of the Department and the public informed be expanded; and that as part of the expanded public information program all employees be required to participate in public relations activities.

9. It is recommended that the Commission insist upon the preparation of an annual report, **as the law requires,** of the actions of the Commission, the status of various programs, the sources of income and the expenditures, etc., and that such report be widely disseminated for the information of the Department's employees and the general public.

10. It is recommended that a regular program of cooperation be developed to bring the work of the Department to the attention of the schools, youth groups, sportsmen's and farm organizations, and similar groups, and that the exhibits program at the various county fairs and other exhibitions be reviewed and standardized.

Poor use of dollars for equipment and supplies can result in unnecessary handicaps to wildlife programs. The Georgia Department's practices in replacing and repairing equipment, purchasing gasoline, distributing oil and uniforms, and handling other related matters have not been as prudent as the too few dollars available to the Department justified.

11. It is recommended that the business practices of the Department be studied by a Committee on Business Practices appointed by the Commission to work with the director and his staff in the development of more modern, businesslike procedures and policies in order to effect badly needed economies in purchases, equipment maintenance, etc.

CHAPTER IV. REVENUE SOURCES AND FUTURE NEEDS

Many of Georgia's needs for development of its outdoor recreational potentials cannot be met unless substantial increases are made in Department appropriations. The State is wasting valuable

marine fishery resources for lack of adequate research. The law enforcement program is handicapped by lack of enough trained rangers and by poor vehicles assigned to existing rangers. There are substantial shortages in the research, planning, and resource development programs which can be overcome only by adding a substantial number of biologists for game and fishery management work. The State needs more public hunting and fishing areas. It needs to refurbish its existing hatcheries. Numerous other problems arise from the lack of financial support.

Yet Georgia fishing and hunting license fees are substantially below those of most leading states and below those of its neighboring states. It grants fee exemptions to groups who generally are not exempt in other states and whose use of wildlife resources are just as costly as the use of these resources by other hunters and fishermen. The solution to the legitimate needs of Georgia in wildlife development and management lies primarily in recognizing and correcting the imbalances and inadequacies of the present license fee structure.

1. It is recommended that the Commission seek favorable action by the General Assembly on the recommended adjustment of license fees as proposed by the consultant team, that exemptions not be allowed to persons reaching age 65 after January 1, 1965 (present exemptions would **not** be cancelled), and that junior sportsmen between the ages of 12 and 16 be permitted to purchase hunting and fishing licenses at $1.00 each. The present scale of hunting and fishing license fees is entirely too low.

2. It is recommended that trout fishermen over 16 years be required to purchase a "Trout Stamp" for $2.00, and that all deer hunters over 16 years be required to purchase a "Deer Stamp" for $3.00 to help defray the cost of two programs which are rather expensive and to provide more positive information concerning the number of participants in these two fine sports.

3. It is recommended that additional revenues be appropriated to the Game and Fish Department over and above the income derived from its operations, and that if more revenue is deemed essential a special $1.00 permit fee be collected from those who hunt or fish on the Chattahoochee National Forest for a cooperative game and fish habitat improvement program, comparable to programs already in vogue in Virginia and several other states.

4. It is recommended that the Department seek a method of requiring the license agents to reimburse the Department for the cost of their share of the blanket bond now purchased; also that a fee be charged for the issuance of duplicate licenses.

5. It is recommended that a thorough review be made of the various other licenses issued by the Department, and especially the fees paid by commercial fishermen, so that appropriate recommendations may be made to the next session of the General Assembly relative to licenses that should be eliminated or licenses that should be increased to provide an appropriate level of fees and revenues.

CHAPTER V. INLAND FISHERIES MANAGEMENT

The Inland Fisheries Program of Georgia has been better financed than most other Department operations and is, therefore, better organized and operated. However, there are shortcomings which need correction. Certain projects should be greatly expanded, and some new programs are essential.

1. The level of staffing and compensation of fisheries biologists should be substantially increased, with more gradations designed to bring graduate biologists into the Department with opportunity for advancement.

2. Trout propagation at Lake Burton should be reduced and ultimately eliminated AFTER Summerville has been developed to supply the trout required. Burton then can be used as a holding station and experimental station for trout operations.

3. The warmwater fish hatcheries should be reviewed and each adapted to its best use. Some of them should be converted to fish management areas, others rehabilitated, others closed.

4. Cooperative agreements should be worked out with the State Parks Department to take over and operate purely recreational facilities on certain properties now operated by the Game and Fish Department, and the former should agree that the latter shall be responsible for managing fishing waters in State Parks.

5. The number of hatchery superintendents and assistant superintendents should be reduced, and the number of fish management area superintendents increased to manage public fishing facilities at projects acquired for the latter purpose.

6. Proper controls should be established for stocking farm ponds, and all applications checked on the ground before departmental fish are supplied, also to avoid duplication by the federal government. Study programs should be shifted to the Department's own pond management projects.

7. If the Department continues to distribute free fish to farm ponds, such distribution should be restricted to ponds where the owners and their tenants hold fishing licenses.

8. Where fish are furnished without cost to a pond for which the owner charges a public fishing fee, the owner should be required to obtain a commercial fishing pond license and pay a fee, graduated with area of the pond, of not less than $25.00 for each pond.

9. The Department should develop an access program for fishermen and boaters on the larger rivers of the State; it also should acquire and develop additional public fishing areas where there is good reason to believe daily use fees will support the latter.

10. The Department should improve and expand its cooperative programs with various federal agencies and the University of Georgia when funds permit.

CHAPTER VI. MARINE FISHERY RESOURCES

Since 1943 efforts have been made at frequent intervals to obtain improvements in Department operations in the coastal area: improved law enforcement, marine research, improved regulations, control of water pollution, etc. The Department has failed completely to assume its responsibility for developing a continuing management program for the marine resources of Georgia. It has not provided adequate law enforcement to cope with the special problems of commercial and sports fisheries in an estuarine area.

1. It is recommended that a specialist for Marine Fisheries Program Planning and Evaluation be employed and that a competent laboratory staff with modern equipment be provided. It is also recommended that the ranger staff in the coastal area be augmented.

2. In allocating the additional revenues derived from increased fees and removal of exemptions as recommended, the Department should provide adequately for a marine laboratory and for better law enforcement in the coastal region, with assurance that the economy will benefit from any sound marine resources rehabilitation program that may be undertaken.

3. As part of the over-all game and fish long-range planning program, special emphasis should be given to the marine fisheries resource needs as a prelude to the acquisition of lands and facilities and other essential steps to assure an orderly, planned development program to overcome the effects of long years of neglect.

4. Pollution abatement of coastal and estuarine waters is essential to improve the habitat for the State's marine fishery resources; and the Commission should seek adequate powers to deal effectively with the problem, including the establishment of a special unit in the Department to cope with the technical problems involved.

5. To expedite the development of a framework of policy and programs to benefit both the sports fishery and the commercial fishery, it is recommended that the Department seek the cooperation of interested groups in the review of policies and regulations.

6. The present laws which close certain estuarine waters to sports fishermen, and to commercial fishermen for shellfish, should be reviewed in an effort to open these waters to public use. The effects of proposed industrial, residential, and other developments that may not be compatible with the conservation of fish and wildlife resources should be weighed carefully.

CHAPTER VII. GEORGIA'S GAME MANAGEMENT PROGRAM

Except for the wholly ignored marine resources, the Game Program of Georgia is the most underfinanced and neglected basic activity in the Department. Capable personnel have developed game survey projects of high quality, promoted game management areas that hold much promise, and otherwise tried to move the program forward, but the game management program as a whole has been starved for sympathetic understanding and financial support.

The Department has not had enough state dollars to match federal grant funds, and almost $400,000 of the latter have reverted for use in other states.

The Game Management Program has been saddled with expenditures of doubtful value.

1. It is recommended that a sizeable portion of the proposed increase of funds be allocated to launching a greatly augmented game management and public hunting grounds program and that the staff of biologists be increased, an engineer employed, and other supporting personnel be authorized.

2. It is recommended that the Game and Fish Commission seek legislation from the 1964 General Assembly which will grant limited immunity from liability to landowners who make their property available to the Department for game management, public hunting, or public fishing, and thereby assure a very large increase in the acreage available to the Department for these purposes.

3. It is recommended that the Game and Fish Commission seek legislation which will authorize rangers to apprehend and arrest persons caught in the act of destroying or injuring property of cooperating landowners while such persons are hunting or fishing, and that said legislation include an inhibition against said persons dumping trash, blocking driveways, etc.

4. It is recommended that the Game and Fish Commission also seek legislation to establish a "safety zone" around all occupied farm residences and buildings connected therewith, including stock yards, to encourage landowners to permit hunting on the balance of their property.

5. It is recommended that the Department use every possible means to provide more hunting (and fishing) grounds open to the public; and that, in addition to leasing large holdings and extending the game management projects on the Chattahoochee National Forest to cover the entire forest, the Department endeavor to develop a cooperative farm-game program tailored to suit Georgia conditions to provide much more acreage open to small game hunters.

6. It is recommended that the State Game Farm at Fitzgerald either be closed or that its operations be converted to the production of exotic birds which show promise for stocking areas no longer suitable for bobwhite quail. If not closed or converted, the distribution practices for bobwhite quail and turkeys should be critically reviewed; and the birds raised should be used in connection with planned management projects. (NOTE: If the game farm operations are abandoned or curtailed, as proposed, the property might be usable as operating headquarters for biological studies applicable to southern Georgia, or statewide.)

7. Since questions have arisen concerning the use of Pittman-Robertson Funds, it is recommended that the Commission review all federal-aid projects, current and proposed, to make certain that no valid objections can be raised relative to the justification of P-R expenditures.

CHAPTER VIII. LAW ENFORCEMENT

Georgia's game and fish law enforcement work, and more recently enforcement of the motor boating law, has long received the lion's share of the funds available, yet this program is badly in need of thorough review and overhaul. The "districts" as they have been operated are not well planned, and the supervisors' responsibilities are far from uniform. Some districts have only 6 enforcement officers, others from 13 to 20.

The process for handling those apprehended for violating the law leaves much to be desired; the rangers waste far too much of their time taking in violators; and apparently the sheriffs of the 159 counties do not handle their share of the responsibility in anything like a uniform manner.

The recruitment, training, and advancement of the rangers leaves much to be desired. The rangers can do a far better job than at present if only given a chance.

1. It is recommended that the Commission adopt a strict policy for handling personnel recruitment and administration in accordance with established merit principles; that personnel recruitment, management, and promotions be based strictly on qualifications and performance; and that promotional opportunities for rangers be improved.

2. It is recommended that the present policy of assigning newly appointed rangers to their "home county" be reviewed and a policy established which will require such recruits to work elsewhere for the first two to three years.

3. It is recommended that the Commission make a study of the staffing pattern for rangers and correct inequities in working loads; that rangers be given the same compensatory time off for working holidays as now given to other classes of state field workers; and that a better system for handling weekend and holiday radio duties be devised.

4. It is recommended that the Department demand semi-annual performance evaluations for all employees, including the rangers, and that these evaluations be comprehensive and meaningful.

5. It is recommended that the present inadequate reporting system covering the activities of rangers be reviewed and a uniform system established which will provide a weekly and monthly record of activities for the information of their superiors, and as a protection to the rangers themselves against accusations of failure to perform their duties properly.

6. It is recommended that the arrest procedure be simplified and standardized, to assure that all violators will be treated uniformly and the ranger's time used to better advantage. It is further recommended that except in aggravated, flagrant cases, rangers be authorized to issue a notice of appearance.

7. It is recommended that the Commission seek legislation to accomplish the recommendation above and to make the failure of a violator to appear pursuant to an "appearance notice" a misdemeanor. It is further suggested that a study be made to ascertain whether the sheriff of the county must actually be involved in handling cases in the manner now in vogue.

8. It is recommended that the Commission review its regulatory procedures to make certain that the regulations as adopted are enforceable.

CHAPTER IX. FEDERAL GRANTS AND DEPARTMENT RESEARCH

Game and Fish research programs in Georgia, as in many other states, have been financed largely by federal-aid funds, but in Georgia those funds have not all been used because of the shortage of state dollars to match federal-aid allocations.

Georgia has used the technical services available at the University of Georgia and of North Carolina, and some excellent programs have been developed by that cooperative approach.

There is need for careful review of the present program and for expansion and better coordination of the entire program.

The Commission also should give consideration to using a larger part of the federal-aid funds for acquiring, leasing, or otherwise obtaining more public fishing waters, more public fishing access sites, and more game management areas and public hunting grounds.

1. It is recommended that the entire Game and Fish Research Program be reviewed, and that a more adequate public land acquisition and access program be developed with federal-aid monies to increase public fishing and hunting opportunities; also that the Commission urge the General Assembly to appropriate more general fund monies for these purposes in view of the large sums contributed by boat owners for boat licenses and gas taxes. (Administration and enforcement of the boating law is now made an important part of the Department's responsibility. Only a limited percentage of the boating enthusiasts buy fishing and hunting licenses.)

2. It is recommended that the possibilities be explored of cooperative arrangements with local cities and counties to handle the maintenance responsibilities on fishing water access sites acquired and developed by the Department.

3. It is recommended that, wherever possible, research workers be assigned full time to research projects.

4. It is recommended that the promotional opportunities for highly qualified research workers be improved to encourage them to remain in the specialized field, unless they actually want to transfer to administrative functions.

5. It is recommended that the Department's research employees focus their attention primarily on types of applied research and that fundamental research be performed on contract with the University and similar agencies.

6. It is recommended that the Department increase its contribution to the newly organized Cooperative Fisheries Research Unit at the University of Georgia to enable the unit to handle more of the fundamental research work.

7. It is recommended that a comprehensive investigative program for marine resources research be launched at the earliest possible date, that adequate laboratory facilities be provided on the coast for such work, and that a highly competent marine research staff be recruited promptly.

8. It is recommended that an objective study of trout stocking be launched immediately; also that investigations to establish additional knowledge on management of fish populations in reservoirs be continued.

CHAPTER X. WATER POLLUTION

Both the freshwater and the saltwater fisheries of Georgia have been severely damaged by both industrial and municipal wastes, and thousands of pounds of game fish were killed by pollution during the past year.

Nearly 47,000 acres of shellfish producing areas are closed because of bacterial pollution, with an estimated loss of 5.9 million dollars annually to the economy.

The Department lacks both the legal authority and the personnel to cope with the problems involved, and others charged with the water pollution control responsibility do not seem to be technically oriented or administratively dedicated to the solving of pollution problems affecting the State's fisheries resources.

1. It is recommended that the General Assembly be urged to enact strengthened water pollution control laws which will attempt to control pollution of all kinds, regardless of the source; impose adequate penalties to make the law enforceable; and protect the quality of public waters for all legitimate water uses.

2. It is recommended that existing policies covering administration of the State's water pollution control program be changed to give greater emphasis to the control of industrial wastes, to give consideration to the needs of the fishery resources, and to assure a coordinated and more comprehensive approach to the water pollution problem by all agencies concerned.

3. It is recommended that the General Assembly be urged to enact legislation which will give the Game and Fish Department authority to proceed directly against polluters affecting the fishery resources, and to collect monetary damages in an amount sufficient to cover the replacement cost of fish killed; authorize direct action through the courts for damaging fishery resources; and authorize securing court injunctions to abate pollution which is affecting the fishery resources.

4. It is recommended that the Department employ a marine biologist with the proper training and experience to evaluate the effects of pollution on the marine fisheries resources and to initiate action against polluters under authority of the legislation recommended above.

5. It is recommended that the Department employ a biologist with competency in chemistry to devote full time to studying and assaying the effects of pollution upon the freshwater fisheries resources, and, where necessary, to initiate the proper legal action to abate pollution.

SUMMATION

Adoption of the total program recommended by the Consultant Team will require the Game and Fish Commission, the Department staff, the General Assembly, the Administration, and the general public to recognize the importance of wildlife development and conservation to the development of Georgia as a better place to work, to live, to enjoy life. Each will have to contribute its part to the development of the program. But each will gain much.

Realization of Georgia's potential as an outdoor recreation state will do much to enhance its potential as an industrial state. It will mean preservation of its natural beauties. It will mean that the outdoorsman and the fireside sitter will both benefit from recreational opportunities, from industrial payrolls, from shared tax burdens required to meet other needs, from general improvements in the Georgian way of life.

Many of the proposals can be carried out by the Game and Fish Commission, and there are many good reasons to believe that the Commission and the Department staff are ready and eager to move ahead. But without additional revenues to support the Department program, little can be done to build Georgia's potential in outdoor recreation. Adoption of the proposed increases in license fees and allocation of reasonable portions of the general funds of the State can readily be justified by benefits to the persons paying the license fees, by benefits to the general taxpayer, and by benefits to the State as a whole.

The Consultant Team, composed of persons with many years of experience in wildlife development and conservation, believe that Georgia has a rare opportunity to move ahead — that the problems which caused this study to be made at this time have focused attention on the needs and the means. The proposals made in this study are based on ideas which have proved their benefits in many states. They have, of course, been adapted to fit Georgia. They will do as much for Georgia — if Georgians will implement them.

II. HISTORY, FUNCTIONS, AND ORGANIZATION

The Georgia Game and Fish Department has many highly important responsibilities. These responsibilities directly affect the game and fish programs of the State and indirectly affect the health, welfare, and general happiness of many citizens, entice or fail to entice tourists to visit the State to see and use its natural resources, and provide or fail to provide an important incentive for industries to locate in Georgia. How well the Department functions and how well it meets its obligations is, therefore, important to all citizens and to the Government of the State of Georgia.

HISTORY OF THE DEPARTMENT

The Game and Fish Department has had a troubled and erratic history. It has survived a number of reorganizations. While detailed information is not available for its early years, the frequency and nature of basic structural changes suggest that problems of recent years are a continuing rather than a new facet of its history. Minutes of the Commission since 1943 suggest that strong non-partisan leadership has been a frequent need.

In 1924 the General Assembly empowered a newly created State Game and Fish Board to elect a Commissioner of Game and Fish and also a Tidewater Commissioner to handle the coastal area and to serve as assistant commissioner for the Department. Both of these officials were appointed to four year terms under the law. The Board consisted of three members, one from north, one from south, and one from coastal Georgia. The Board was given the powers, duties, and responsibilities of the then existing Department.

After seven years the General Assembly made a basic structural change. In 1931 it abolished the Board and the position of Tidewater Commissioner. The position of Commissioner was retained, and the incumbent continued to serve a four year term; but he became the appointee of the Governor. In this period the Governor, of course, served a two year term but was subject to re-election. The extent of his control thus depended largely on expectations of the number of terms he would serve and the prospective situation when a Commissioner's four year term expired. This plan remained in effect for six years.

In 1937 the General Assembly again changed the organizational structure. It created in a Department of Natural Resources a Division of Wildlife to replace the Game and Fish Departments. Three other divisions were placed in the Department of Natural Resources: Forestry; Mines, Mining, and Geology; and State Parks, Historical Sites, and Monuments. The Governor was authorized to appoint a Commissioner for the entire Department, to serve a four year term, and also to appoint a Director for each Division, with each to serve for four years. The Governor's term remained at two years. It is not surprising that this badly coordinated arrangement also lasted only six years.

The present basic structure was created in 1943. In that year the General Assembly created a Department of Game and Fish, removing it from the Department of Natural Resources which also underwent a name change. A Game and Fish Commission was created to govern the re-constituted Department.

The Commission was given constitutional status by amendment in 1943 and by the 1945 Constitution which, in Article 5, Section 4, Paragraph 1, provided for the members to be appointed by the Governor with "confirmation" by the Senate. Under the constitutional provision, members of the Commission serve seven year terms, overlapping, with terms of one or two members expiring each year. One member must be selected from each congressional district of the State, and one additional member is to be selected from the six counties which border upon the Atlantic Ocean. Currently, of course, these provisions produce a Commission of eleven members.

In the years since 1943 there has been no further structural change. The Department's history, however, has not been calm. The Commission from time to time established what appeared to be sound personnel and other policies for the guidance of the Department, including merit system appointments, training programs, etc.

Repeatedly the record shows that the administrative head was "given full control" of all subordinate personnel. But the record also shows that at no time did the Commission adhere to its own mandates for more than a few months at a time; that it kept changing policies at will; and that the members of the Commission regularly usurped the authority of the Director with reference to directing or controlling the activities of subordinates, including the hiring, firing, suspension, and reinstating of employees.

The State Merit System has apparently been used since December, 1955, when it served certain purposes to do so; and its requirements have been ignored when they interfered with certain obvious objectives.

A "Permanent Ranger School" for training purposes was repeatedly authorized by the Commission, then apparently dropped whenever the limited funds were needed for other activities. In most of the years since July, 1956, there has been no training school, presumably because Department finances did not justify the necessary expenditure.

Some of the failures were due to the fact that the Commission appointed persons to the Directorship who were not capable career men. But over the years the lot of the Director and all other employees has been an uncertain and hectic one because there were no firm Commission policies to give the Department and its operations stable guidance and direction. Examples of such actions are given in the following block indented section.

> Early in its life (1943) the new Commission established age limits for rangers (25-55), required doctor's certification of physical health, and provided that rangers were to be stationed away from their home county (this last policy has not been followed). A ranger force of 36 was authorized. A training school was held in August just a few months after the new Commission took over.
>
> In October, 1943, the Commission heard a petition for the discharge of its assistant supervisor for the coastal area. In February, 1944, the Commission approved a motion from one member to fire two rangers and also adopted a motion that the Director should handle all hiring and firing. Three months later (May, 1944) it established the policy that the Director would handle all personnel matters.
>
> For a while life appears to have been calm. But in May, 1947, the tempo picked up. The Commission investigated charges against a ranger, declared him innocent, but left him off the payroll. A year later the Commission instructed its chairman to meet with one of the members to hear his complaints against the Director. In December of that year (1948) the bonding company for Department employees was reported ready to file charges against two subordinate employees responsible for handling money; the Director resigned; and three employees, after making refunds, were exonerated of any intent of wrongdoing.
>
> A month later (January, 1949) the new Director was authorized to make, but required to report, personnel changes. In February a point system of rating employee performance was abandoned, and the Commission set the policy that it must approve the authorization of new positions and the raising or lowering of salaries. In June one member of the Commission was authorized to interview applicants for a research position on the coast and give the "selected" name to the Director for him to hire. In August a Commission committee was appointed to investigate charges against a ranger who later was absolved of the charges but not reinstated because he was "inefficient". (Later the employee apparently was reinstated at a new post a few miles away.) In September the Commission required that the Director hire or fire only with specific approval of the Commission but allowed him to

suspend without pay pending approval by the Commission. All applications were to be investigated by the Commission. In the next six months or so, turnover among rangers was rather heavy.

In December, 1949, the Commission announced a set of employee rules covering vacation and sick leave. In February, 1950, an employee was relieved of his duties "effective today". In April, 1950, the Commission decided that a particular ranger chief should keep down complaints "or else", and it approved the recommendation of a committee of the Commission that a particular ranger be discharged. In July it authorized the **Chairman** of the Commission to put on extra men to collect the shrimp tax and relieved one ranger and reinstated another. In August on motion of a Commission member, who had investigated the ranger, the Commission discharged another. Similar actions occurred in September and again in January, 1951. In February eight rangers were laid off shortly followed by the relief of the Director "effective today".

Several 1952 meetings included discussions of actions on individual rangers, with investigations, removals, suspensions, and reinstatements occurring. The Commission dismissed a ranger chief in November.

In December, 1954, the rule was again announced that all present and new employees must have a physical examination report on file with the Department. In December, 1955, the Commission authorized its Director to take the necessary steps to put Department employees under the State Merit System. In June, 1956, a retirement age was set (65 or thereafter when the employee has completed six quarters under Social Security). In July, 1956, the Commission established a permanent annual ranger school. (In most of the succeeding years, incidentally, there has been no ranger school, presumably because Department finances did not permit the necessary expenditure.) Movement of employees, suspensions, and other actions in the following years are probably well-enough remembered.

In January, 1963, the present Commission established a number of specific policies:

The Department budget shall be submitted to the Commission Budget Committee at least 15 days before submission to the Budget Office, and all members of the Commission must receive copies of the budget submitted.

All hiring and firing of division heads shall be submitted to the Commission before action. All others to be submitted as information at next meeting.

All purchases above $500 in value shall be submitted to Commission for **prior** approval.

At each meeting one of the Division chiefs shall report on his division's work; regular committee meetings should be held; an agenda should be prepared and followed at each meeting; the Director's report shall be given at the beginning of each meeting.

Commission members, after informing the Director or his assistant, shall have authority to call upon personnel and equipment of the Department in carrying out official duties.

Events of the Spring and Summer of 1963 require no restatement.

POWERS AND RESPONSIBILITIES

Although the Georgia Constitution provides for the Commission, the Commission's powers are left to the General Assembly. "The Commission shall have such powers, authority, duties, and shall receive such compensation and expenses as may be delegated or provided for by the General Assembly."

The General Assembly has provided a number of important powers and responsibilities. The Commission is given the authority to appoint (to serve at its pleasure) the Department Director, the "Supervisor of Coastal Fisheries", and all other Department employees.

It has broad program and regulatory responsibilities and adequate authority to meet them. It is responsible for and has the authority to:

- Acquire lands and waters for fish hatcheries, game farms, and other facilities for refuges, wildlife restoration and propagation;
- Fix hunting and fishing limits and seasons on a statewide, regional, or local basis;
- Regulate the manner of taking game and fish;
- Promulgate necessary rules and regulations;
- Make cooperative agreements with state and federal agencies and institutions;
- Require construction of fish passageways or construct such passageways and charge the expense to any person blocking movement of fish upstream to spawning areas.

The Commission is required to maintain records of its financial transactions, of its meetings, and of its "doings".

The Commission is specifically authorized to employ wildlife rangers who by statute are authorized to enforce the game, fish, and boating laws and the regulations promulgated by the Commission. Under these statutes rangers are authorized to seize, take possession of, and donate to charitable institutions any game or fish obtained by any person, or possessed by any person, in violation of game and fish laws and regulations. The rangers are authorized to carry firearms (and do). They may serve warrants in connection with game and fish violations, and they may enforce trespass laws related to game and fish matters. They are NOT peace officers in the normal sense but have been so classified for purposes of retirement system eligibility. The effectiveness of their arrest powers is considerably affected by relationships with courts and peace officers in the particular counties in which they work.

FUNCTIONS

All activities of the Department relate to the broad functions of conservation, development, and protection of fish and wildlife. To meet its functional responsibilities the Department has programs of research, restoration, development, management, and enforcement in respect to fish and in respect to game. In addition to licensing resident and nonresident fisherman and hunters it has responsibilities for licensing persons who have certain privileges in relation to fish or game. It also licenses boats. More than 30 separate kinds of licenses are issued by the Department. It has the added responsibility of informing the general public, and especially sportsmen, of the opportunities available for the enjoyment of outdoor recreation related to fish, wildlife, and boating activities and of the conditions under which the opportunities may be enjoyed.

ORGANIZATION

The Commission has full authority to organize the Department. It has established a "vertical" or "line" organization under which supervision of each activity, wherever the work is performed, is provided through an administrator for that activity who is based at Atlanta headquarters. Thus, a fisheries division chief directs all headquarters and all field activities for fish research, restoration, propagation, development, conservation, and similar activities. A game division chief directs all headquarters and all field game management, research, restoration, propagation, development and conservation activities from his Atlanta headquarters. A law enforcement chief, operating in Atlanta (the position currently is vacant), directs eleven district chiefs who in turn are responsible for law enforcement in their geographical districts. The district chiefs have limited housekeeping activities also under their supervision, but a number of such services are provided by staff units in Atlanta or by units under the law enforcement chief.

At this time the Department is composed of three "line" divisions which, between them, have responsibility for carrying out the programs for which the Department was created: game management, fisheries, and law enforcement. The Department also has four "housekeeping" divisions

which provide support to the "line" activities. These are the Information and Education Division, responsibile for providing information to the public and sportsmen concerning Department activities and wildlife opportunities; the License Division, responsible for issuing hunting and fishing and other licenses and for collecting license fees; the Bookkeeping Division, responsible for depositing collections and for maintaining the accounting records of the Department; and the Personnel Division, responsible for rather limited personnel administration services and several miscellaneous duties.

The structure, activities, and staffing of these divisions can be briefly described as follows (Exhibit I is a chart of the present organization structure):

Game Management Division

The Game Management Division is one of the three major program divisions of the Department. Its Chief, who reports directly to the Department Director, supervises all phases of the game management program except law enforcement. He is responsible for negotiating the acquisition of lands and of limited rights to use lands for game management and public hunting. He is responsible for planning and supervising the development of such lands. He negotiates for federal approval on research, restoration, and development projects for which the Department is seeking federal approval and, therefore, federal reimbursement on a three to one dollar basis under the Pittman-Robertson Act.

The Game Chief also is responsible for operation of a game farm used to produce turkeys, quail, and jungle fowl which are then distributed on the basis of applications from persons wishing to increase these species on private hunting lands. He is responsible for supervision of biological surveys and research projects which, however, are under the direct supervision of an assistant chief. He is responsible for game development and management activities and for the proper development of information for the Commission's action in setting seasons and harvest quotas on game. He, of course, also has budgetary and personnel administration responsibilities within his division.

The Game Management Division employs ten game biologists, one wildlife ranger, two maintenance laborers, one trapper, two construction equipment operators, a game management farm operator, a gamekeeper, and a small clerical staff. In addition, 14 wildlife rangers engaged in game restoration work currently are carried on "P-R" funds.

Fisheries Division

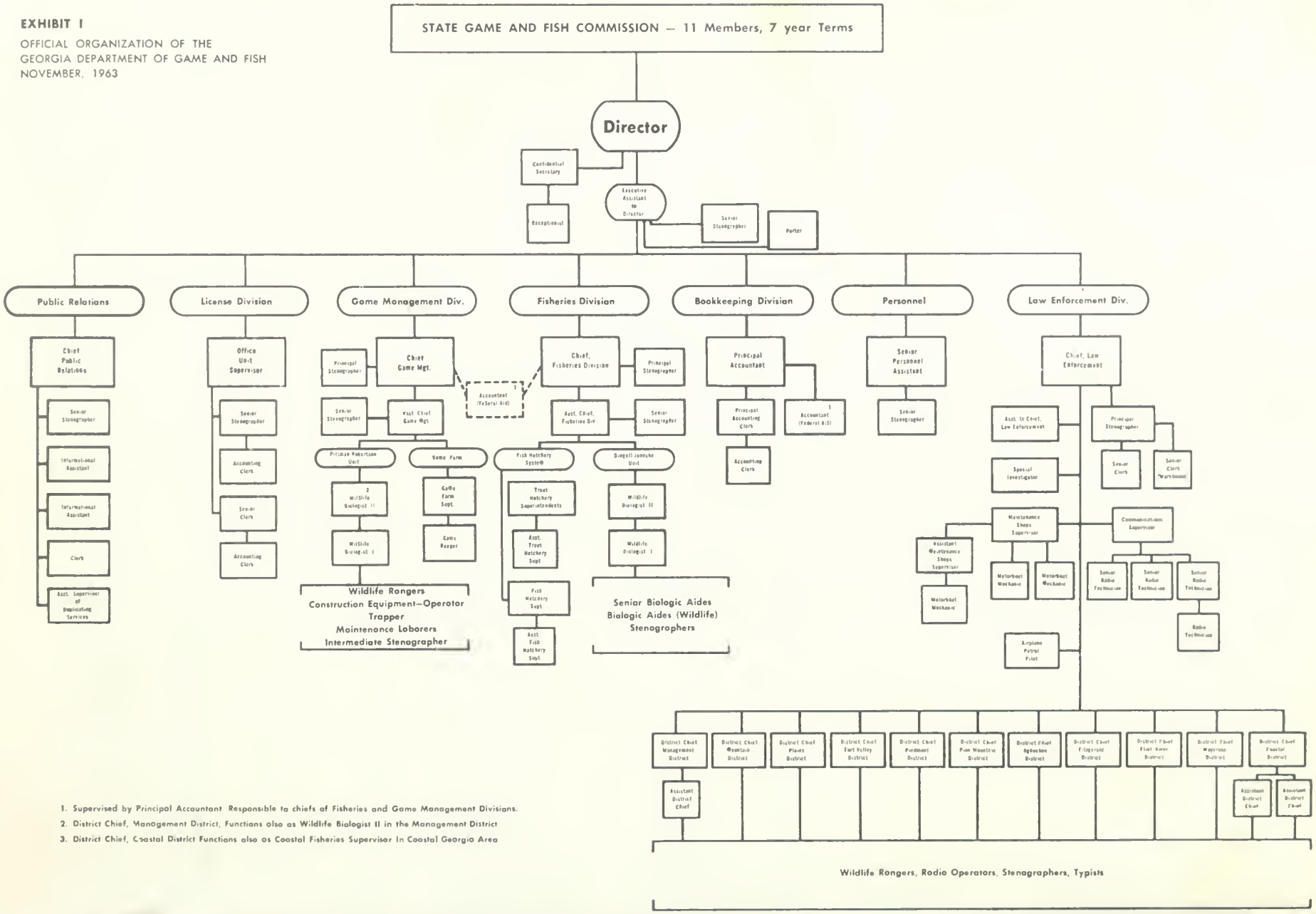
The Fisheries Division is the counterpart for fisheries work of the Game Management Division. Its Chief, who also reports directly to the Department Director, supervises all phases of the fisheries research, development, and management programs exclusive of law enforcement. He, too, is responsible (in relation to fisheries activities) for negotiating for lands or use rights, planning development, and supervising the development of lands and waters used in the fisheries program. He negotiates with representatives of the U. S. Fish and Wildlife Service for project approval and for Dingell-Johnson ("D-J") reimbursements on fisheries research, restoration, and development projects.

The Fisheries Division Chief also is responsible for operation of six fish hatcheries and for the distribution of their output to trout streams and privately-operated farm ponds (for warmwater fish). Two of the hatcheries produce trout primarily; four produce warmwater fish.

The Fisheries Division Chief is aided by two Assistant Chiefs, one who supervises the hatchery operations and one who directs the work of the research biologists. In addition to the Chief and the two Assistant Chiefs the Fisheries Division employs five biologists who are project leaders, two other biologists who assist the seniors, and nine biological aides. All of these men are involved in the fisheries research program. There are also six hatchery superintendents (one for each hatchery) and nine assistant superintendents. The Division also has four clerical employees.

EXHIBIT I

OFFICIAL ORGANIZATION OF THE
GEORGIA DEPARTMENT OF GAME AND FISH
NOVEMBER, 1963



1. Supervised by Principal Accountant Responsible to chiefs of Fisheries and Game Management Divisions.
2. District Chief, Management District, Functions also as Wildlife Biologist II in the Management District
3. District Chief, Coastal District Functions also as Coastal Fisheries Supervisor In Coastal Georgia Area

Law Enforcement Division

The Law Enforcement Division is by far the largest division in the Department. It is the third "program" or "line" division. The Chief (the position is now vacant) reports directly to the Department Director for all law enforcement activities statewide. He directly supervises eleven district law enforcement chiefs, each of whom has a geographical district. (None of the districts exactly coincides with any congressional district, but all approach this situation sufficiently that the Members of the Commission tend to consider that each member has a particular district as his home district).

The Law Enforcement Chief also directs the work of a "Motor Boat Division", which is responsible for boat and vehicle maintenance, and a "Radio Division" which is responsible for installation and maintenance of Department radio equipment.

Generally the ranger force operates as an independent arm of the Department with little or no special assistance to the game or fish biologists other than routine law enforcement, which contributes to management of these programs, and special assistance when game management areas are opened for public hunting days.

The Law Enforcement Division has a budgetary quota or authorized strength, but the quota has had little effect on personnel transactions since the employees presumably responsible for adhering to the quota do not generally know the assigned limit. As of November, 1963, the Department employed 123 Rangers in its field program. As few as six and as many as 23 rangers reported to individual district chiefs, and chiefs were responsible for supervising law enforcement work in as few as seven or as many as 23 counties.

Information and Education Division

The Information and Education Division now consists only of a headquarters staff. Its Chief also reports directly to the Department Director. The Chief is responsible for developing and using all available news media and Department publications to convey information to the public concerning Department programs: fishing, hunting, and boating opportunities; law enforcement problems and activities; and similar information which will assist the public to make best use of the game and fish program. The information program naturally has been "beamed" primarily at outdoor sportsmen and commercial fishing groups, rather than to the general public which owns these resources.

Usually in the past the division has included two information assistants, a press operator, and stenographic help. Under current budgetary curtailments the Chief has stenographic and press help. The publishing program has been considerably curtailed in recent years, and currently much of the emphasis is on spot announcements and the publication of a semi-annual magazine. The division has expensive press equipment.

License Division

The License Division is another of the "housekeeping" group with only headquarters employees. The division Chief reports directly to the Department Director concerning the work of his four clerical employees who distribute licenses and collect and account for the fees on about 30 different kinds of licenses issued by the Department to hunters, fishermen, boat owners, and related groups.

The division handles the licensing routine for the more common licenses (resident and nonresident hunting and fishing licenses and the resident combination hunting and fishing license and several others) through 1,275 bonded agents who sell the licenses to applicants and remit the required fees, at reasonable intervals, to the License Division. The agents are allowed a $.25 handling fee on each license, and the State pays the bonding premium of about $8,000 annually.

The division maintains control records for the license blanks forwarded to each agent and for the licenses issued and the fees collected. The division directly issues the less common licenses. Actual accounting records and deposit operations are handled by the Bookkeeping Division.

Bookkeeping Division

The Bookkeeping Division, under a principal accountant who reports to the Department Director, is responsible for the accounting records of the Department. The principal accountant is responsible for all records on financial transactions, including accounting for the Department budget, except the accounting for federal aid projects (the "P-R" and "D-J" programs). Federal aid accounting is handled, under the general guidance of the principal accountant, by an accountant who is directly responsible jointly to the Game Management Chief and the Fisheries Division Chief.

Personnel Division

The Personnel Division includes the Personnel Officer, who reports to the Department Director, and a stenographic employee. The Personnel Officer is responsible for processing applications for employment, requesting certification of qualified applicants to fill vacant positions, maintaining records on active employees, assisting other division chiefs in handling personnel matters, and performing a wide variety of miscellaneous activities.

STAFFING

Over-all the Game and Fish Commission employs from 240 to 250 persons and has an authorized budgetary quota of 259 positions. Of these approximately 148 are engaged in law enforcement work or directly support field enforcement work, including the division chief, the 11 district chiefs, the 123 rangers, and the maintenance employees. Approximately another ten employees provide logistical support to the enforcement program. Approximately 38 employees are concerned with fisheries work and 21 with game management work (plus the 14 wildlife rangers).

Among the game and fish employees are 21 biologists or biologically-trained supervisors. The ratio of law enforcement employees directly involved in enforcement work (approximately 136) to biologists (21) is 6.5 to 1. While there is no precise enforcement-biologist ratio standard, it is generally considered that the ratio should be about 2.5 or 3.0 to 1 for the most effective management of progressive game and fish programs.

FINDINGS

The Game and Fish Departments has a long history. There have been quite satisfying achievements. There has been progress in a number of its activities. There is good reason, as suggested in more detail later, for optimism in terms of the future. But on the whole, it must be concluded that the Department's history has included an excessively large amount of trouble, much of it caused by the Commission itself.

During the 1940's and 1950's there were many starts, shifts, stops, and restarts. There were a number of periods when the Commission seemed to decide that it was time to get on with the business of providing a well-organized program of wildlife conservation and law enforcement. Sometimes these starts lasted for a year or so; sometimes they seem to have ended in the same meeting in which the start was made.

Problems

Quite a listing of problems could be recited. So that the need for change can be fully understood, some of most importance are listed here.

The Department has never had a long-range, master plan for its programs. At no time in its long history, according to the records available, has the Commission or the staff developed a plan of action to be followed over an extended period of time for law enforcement, game management, or fisheries management. Research projects in game and fisheries management have been developed and consummated; individual projects for the benefit of hunters or fishermen have been well-developed. But at no time has there been a consistent, coordinated attempt to develop a pre-determined, coordinated course of action for any of the three major programs over an extended period of time. Without such a plan it is difficult to measure progress, it is difficult to know what is progress — there is no yardstick to apply.

The Department has rarely had short-range objectives other than those for a particular project. While key staff members have developed a series of personal objectives for the Department and have slowly moved the Department toward achievement of these goals, there have been no indications that the Commission has ever approved any carefully developed and publicized goals for short periods, with the exception of the objectives listed by the present Commission in January, 1963.

The Commission has failed to establish policy guidelines. The Commission has wavered among numerous policies. At times it has asserted its faith in merit principles and shortly reverted to hiring and firing on recommendations by Commission members. It has established working hours and shortly changed or ignored them. It has established purchasing procedures and quickly forgotten them. It has repeatedly set employee qualifications and hiring procedures and then ignored them, especially for rangers.

The Commission has faced bravely up to a number of problems, then failed to resolve them. Since 1943, at least, it has had complaints concerning inadequate law enforcement in the coastal region, inadequate concern for the commercial fishery, inadequate marine research to develop the economic potential of the coastal region. All of these problems are equally troublesome today, but compounded by the passage of time, the intensities of feelings, and the increasing despair and frustrations of certain groups.

The Commission has failed to follow accepted procedures for a part-time governing body. The Commission has delved into administrative details and failed to set policies. It has dabbled in staffing and failed to concern itself with planning. It has announced policies and promptly ignored its own actions. It has established procedures and failed to provide for any means of review or control.

Generally it has failed to police its own membership; it has not been unusual for it to have difficulty in obtaining a quorum or in obtaining regular attendance of particular members. It has operated on proxy votes, learned that it had no authority to do so, and then taken telephone votes on issues from absent members.

The Commission has perpetuated confusion over its own role and the role of the Director. By failing to recognize the limits and the advantages of a part-time policy-making and regulatory commission, the Commission members have rarely been able to set and adhere to any consistent policy in dealing with the Director and with the Department. At times it has given the Director authority to run the Department, including the handling of all employee matters. At other times the Commission as a whole has directly intervened to hire or to fire or to suspend an employee. At other times individual Commission members appear to have taken substantial administrative actions in regard to employees without prior sanction by the Commission as a whole and then obtained Commission approval without staff study of the matters involved.

The Commission, or committees, or individual members have made investigations of allegations against individual employees which would have been difficult for well-qualified, trained investigators to handle properly. The investigation results have been reported with little apparent recognition that the information revealed failed to support the recommendation or the result.

At times the Commission has told the Director to hire and fire on his own discretion. At other times he has been told to obtain prior approval of the Commission for such actions. At still other times he has been directed to take action but report it at the next Commission meeting. At still other times he has been instructed to handle one group of employees under one system and another group under a different arrangement. Occasionally the Commission has taken action in a single meeting under one set of instructions and immediately affirmed a contrary policy for future transactions.

Such actions clearly undermined the effectiveness of the Commission; and, as clearly, they prevented effective and efficient operation by a director.

The Commission has failed to establish needed procedural guidelines for its own meetings. It has repeatedly called for an agenda system and repeatedly ignored the fact that an agenda system was not developed and used. It has not established any system by which employees are informed of its actions on program matters; it has not provided for any follow-up procedure on "unfinished" business; it has not provided for routine review of compliance with Commission directives nor for review of program decisions to determine the rate and level of progress achieved.

The directors generally have failed to administer the Department. Under the conditions described above, it is quite apparent that administration would have been difficult at best; but some actions obviously could have been taken which were not. The directors generally have failed to involve their "program chiefs" in the development of sugggested policies, programs, and budgets in such a way that they would feel responsible for developing reasonable, but far-reaching, plans or for carrying them out within the finally established dollar limits.

The directors have failed to establish devices to protect lower-level employee positions from political maneuvers. They have failed to provide intra-department communications by which employees could be informed of Department policies (fluctuating policies undoubtedly have made this a very difficult problem). They have failed to follow through on Commission directives concerning purchasing, handling of personnel transactions, development of agenda, budget development and submission, reporting, and other standard procedures which at one time or another the various Commissions have promulgated.

The directors have failed to provide the leadership to the Commission which any part-time governing body is entitled to receive from its chief executive officer. There have apparently been no planning sessions. There seem to have been no consistent efforts to expose Commission members to the thinking of the top program people in the Department. There seem to have been no efforts to provide policy issues for Commission members to weigh in lieu of "chewing on" employees and employee situations. There appear to have been inadequate efforts to set up good internal communications so that employees could, by upward flow, contribute to Commission decision-making. There seem to have been almost no efforts to bring the Commission face-to-face with the very real problems of the Department.

The present organization structure shuts off promotional opportunity. There are too few separate job levels within each of the different functions: law enforcement, game management, etc. The ranger normally has one promotional position to which to aspire; the biologist may take only two upward steps except under most unusual circumstances. Neither is prepared by his work in the Department to assume administrative responsibilities even within his specialty and certainly not outside of it.

There is no practical opportunity for men to learn enough about other Department activities than their own duty assignments for them to grow and to open up promotional opportunities for themselves. The problem is further complicated by the consistent failure of the Department to provide training programs, or even meetings between diverse groups with different responsibilities, through which they could obtain knowledge of other Department programs, could gain wider

acquaintance within the Department, and could hope to make some personal impact on persons — other than their immediate superiors.

In addition to the lost opportunity for exchange of ideas of benefit to the employee, there is the equally great loss of the employee's contribution to the development of Department decisions on goals, objectives, policies, and procedures.

A final complication reducing promotional opportunity is the lack of enough top jobs and inadequate pay for the few which do exist.

The present organization structure prevents the development of future Department leaders. This is implicit in the restrictive promotional opportunities. A man can become a good law enforcement officer; another can become a good game biologist, and with luck may hope for a supervisory position. A fisheries biologist has approximately the same hope. But none of them has the opportunity to learn to administer all Department activities at a level which will minimize the problems from his mistakes while giving him training for the future. None has even reasonable hope for enough contact with employees in other programs within his geographical area to learn how to cooperate with men in the other programs in a manner which will strengthen the Department — usually he will not realize his cooperation has any advantage for the other employee or the Department.

Quite a few career, field employees do not know the names of key employees and supervisors in other Department programs or even the names of all supervisors within their own activity unless they have served under them. So long as there is no organized program to shift men for job training, no special inservice training programs, and no Department-wide or region-wide meetings, these conditions must be expected to prevail under the present structure.

There is almost no field coordination of Department activities. For the most part programs are operated as though each activity group were in separate, isolated cubicles, unrelated to others. Except on a purely personal basis, there is little or no exchange of information or coordination between biologists and rangers working in the same vicinity. There is little attempt to exchange views or to obtain information from each other by which each might help the other. Biologists too often ignore the ranger's knowledge of local conditions when developing recommendations as to seasons and harvests. Rangers, the source of most directly imparted information to the public, do not know the basis for season and harvest decisions and do not know the standards applied by the biologists — so they can hardly be expected to inform the public.

The absence of policy and procedural manuals, the failure to communicate Commission and Director decisions to the field employees, the failure to involve the field employees in decision-making — these add up to problems which hamper Department operations across-the-board and make coordination extremely unlikely.

Other failures could be cited and documented. But since there is opportunity to build, the importance of past failures and present weaknesses should not be over-emphasized to the detriment of the Department and with no benefit to the public.

The real questions NOW are: What can be done to correct these problems and build a strong, effective, and dynamic program? Is there a basis for building? Is there a foundation on which a strong Department can be erected? Or must the whole structure be jettisoned and a new start made?

Prospects

In the judgment of the study team there is a basis, a strong basis, for believing that a sound, effective, and dynamic Department can be built on the existing foundation. Problems exist, they are serious, they are real. But progress has been made. And the Department has real, inherent strengths which in the past few months have begun to appear and which are extremely important assets in the building process.

The Commission

Considerable attention has been given to weaknesses of past Commissions, past directors, and the organization structure. If there were no hope for improvement and no evidences of progress, there could be little choice about what to do or what to recommend now. But there are numerous indications that a new day may be at hand.

While the present Commission at times demonstrates some of the troublesome traits of its predecessors, it also has charted some new and important paths. Early in 1963 it established a series of policies for internal administration. In the same meeting it established a series of "Objectives for 1963", some of which have moved toward fruition in spite of the difficulties of the past summer.

In May, 1963, the Commission directed its staff to prepare a long-range plan. It established a policy that its key professional employees shall report, in some depth, on their problems and progress at Commission meetings so that the Commission may see its responsibilities in better focus, may understand weaknesses and needs more precisely, and be able to chart the future more surely.

The Commission has moved towards fuller acceptance of its responsibility to review budget requests before they are submitted to the Budget Bureau. It has attempted to involve itself in this very important area of decision-making and has committed itself to several important allied activities. It is working to show the need for increased revenues from license fees and to justify the increased rates it recommends. It is attempting to show that the Department understands many of its problems and is trying to overcome them. It has re-established contact with sportsmen's organizations and other groups in an effort to find common ground for meeting the State's needs in wildlife conservation programs.

The Commission has once more tried to step back from dabbling in internal administration and, instead, to establish policy guidelines and performance reports by which it can determine the extent of compliance with its policies. Obviously, this is a hard and slow road for the Commission; but it is taking preliminary steps along the way.

The Commission has attempted to reform its own operations. It has again attempted to set up a better agenda system for its meetings; and it is following a limited agenda pattern which, admittedly, needs much improvement.

In effect, the Commission (or at least key members within it) has recognized that before the Commission can do much to build and modernize the Department, **it must clarify its own goals and objectives and reform them to more appropriate patterns for a part-time governing board. It has a way — a long way — to go;** but it has started well.

Employee Calibre and Morale

Obviously operating practices of the past have created some built-in problems for the present and the future. But the Department has many employees who are entirely adequate for the positions which they hold. It has a surprising share of highly qualified, dedicated, dependable, and forward-looking employees.

The situation on employee morale is not uniform, of course; but, on the whole, morale is more promising than would normally be expected under the circumstances which the Department has faced in past years and recent months. To a considerable degree this is a reflection of the personal qualities of many employees, of their dedication, of the innate loyalties which many have to wildlife programs.

Professional employees, as a group, appear to be competent. Most of them can probably perform at a considerably higher level than has been open to them until now. The consultant team

for this study, composed of men familiar with most of the leading wildlife biologists in the nation, agree that the Georgia group of game and fish biologists compare favorably with those of any other state.

The morale of the biologist group is not high. Surprisingly, it has not been destroyed. There is a sturdiness here that comes from personal character and personal interest in fish and wildlife programs. On this sturdiness the Department can build! Morale, however, is at a turning point for many of the biologists. What happens in the next few months can be extremely significant for the Department for years to come. If given the chance to function in an orderly, forward-looking properly planned program which they have helped to develop, the biologists will go all-out to build a new, a finer Game and Fish Department. **But they will not wait indefinitely for the chance.**

There are other employee groups of much importance in any effort to build the Department, and their morale also is important. In the "housekeeping" areas, morale is hard to measure. In the law enforcement group, which makes up such a large part of the total employee force, high morale could be a tremendous help. Actually, morale is not high. But neither is it destroyed. It is not a cohesive force at this time. It is ambiguous, tenuous, indefinable. It is less ready to be destroyed by unfortunate events than the morale of the biologists, but it also will respond less quickly to favorable events. This probably comes as a direct result of the long-standing practices of filling (and vacating) ranger positions on grounds other than strict consideration of merit system principles. Rangers clearly are aware that in the past, regardless of the quality of their job performance, they could not count on holding their positions if political fortunes changed. They tend neither to excessive pessimism nor great optimism when discussing whether there has been any permanent change toward a true merit operation.

Nevertheless, the Department is fortunate to have a number of well-qualified rangers and district chiefs, men who have survived and progressed in spite of this hostile environment for progress by quality men. These are men who would be a credit to any game and fish department in the nation. They also provide an excellent foundation on which to build a quality department. Other rangers and district chiefs, equally dedicated and sincere, need only the encouragement, the training, and the direction which strong, enlightened, and consistent leadership can provide.

The "housekeeping" staff also gives evidence that it would respond well to a suitable framework and proper leadership.

Present "Atmosphere"

Finally, in evaluating prospects, it is appropriate to consider the underlying conditions in which a rebuilding program can falter or be achieved. The "atmosphere" appears to be "right".

The Game and Fish Commission has strongly supported a quality study by the Governor's Commission and this team of consultants. It has encouraged its Acting Director to make all employees and all records fully available to the study team. The Acting Director and all employees have cooperated fully and with great frankness. The study team has had opportunities to visit with, to question searchingly, and to discuss fully many issues with many different groups of employees. Sometimes supervisors were present; sometimes they were not; sometimes supervisors were alone with one consultant, and sometimes several consultants had a chance to talk with an individual supervisor or biologist or ranger. Employees have not hesitated to provide frank and thoughtful answers or to pose searching questions of their own. They have freely discussed problems, needs, failures, and prospects.

Outside the Department the "atmosphere" also seems right. Sportsmen's groups have worked closely with the study team to provide information and views of problems and needs. They have indicated a desire for rapport with the Department. They have demonstrated a willingness to accept higher license fees in order to provide needed revenues to build a better staff and better

programs of wildlife development and conservation. They have contributed time and thought and energy to helping the Department move ahead.

Industrial groups and commercial fisheries groups also have shown keen interest in building a marine resources program of greater value to Georgia. They have helped the study team see the need for marine research, for better law enforcement, for more public information. And they have offered to contribute more financial support to such a program.

Key people in the Administration and in the General Assembly also have indicated a willingness to move the Department ahead. With full opportunity to use the Department as a whipping post, they have chosen instead to seek solutions to its problems.

Given this "atmosphere", this interest, this willingness to help on the part of so many key groups, the dedication of key Department employess, the surprising resilience of Department morale, and the vitalizing changes in the Commission, the consultant team is convinced that the present Department does provide a sound foundation on which to build a major force for fish and wildlife conservation — perhaps, even, a showcase for this important activity. **But this conviction is based on the belief that the Game and Fish Commission will promptly take the necessary steps to move ahead.**

PROPOSALS

Over the years, except possibly during 1963, the record does not indicate that the Game and Fish Commission has assumed its full share of the responsibility for the success, or failure, of the entire Game and Fish Program. Based upon the information developed and the serious problems associated with failures of the Commission and of other elements of the Department, the following recommendations are submitted.

Policy-Making, Programs, Regulations

The Commission should make the development of policies and long-term programs for the guidance of all concerned its first order of business — after it appoints a permanent Director. It should give early attention to the most urgent needs, including the long-neglected marine resources.

The Commission should review all legislative proposals relating to the Department, especially all originated by Department employees, and inform appropriate committees of the General Assembly of its considered views. It should regularly consider and carefully review the Department's budget requests and its budgetary results. It should review regulatory proposals only after they have been submitted to the staff and the staff has given them careful study and submitted its recommendations and support. In promulgating regulations it should have available, and act only after, competent legal advice.

The Commission should revamp its own operating procedures in order to provide for orderly proceedings, adequate attention to policy issues, and careful definition of policy and procedural guidelines for the Department programs. It should develop an agenda system for its meetings, with the agenda divided into two parts: **Items for Information** and **Items for Action.** Under each item brief information should be provided to expedite consideration at Commission meetings. Agendas should go to the members at least a week in advance of the meeting, and needed supplemental documents should normally accompany the agenda.

Commission members should be discouraged from seeking action on issues not on the agenda, especially those of local application only, but encouraged to bring up items and problems for referral to the Department staff for study and ultimate recommendation.

Commission meetings, except when critical materials relating to individual employees are being discussed, should be open to the public and to news media. Key staff employees should be in attendance at all public meetings and should receive routinely a copy of all Commission Minutes and Minute Orders or Policy Statements. Copies of Minutes also should be distributed to news media, sportsmen's groups, and others interested in wildlife conservation and development.

The Commission should provide for reports on program activities designed to keep it informed of the results stemming from its policy decisions and program approvals. In addition, an annual report of all significant Department activities should be prepared and distributed widely every year, as required by present laws.

Recommendation No. 1

It is recommended that the Game and Fish Commission begin revamping the Department by clearly defining its own operating procedures and by clearly recognizing its own proper role as a part-time governing body, equipped to make policy decisions but not to provide detailed administration of the Department.

Department Organization

For the Department to overcome present shortcomings and gear itself for the future development of an appropriate wildlife conservation operation, substantial reorganization will be necessary. Even under the most favorable circumstances, however, reorganization is not achieved overnight. It depends on many carefully developed and carefully executed steps, usually extending over a period of a number of months.

Certainly for the Game and Fish Department, advance, careful planning is essential. The total operation, however, should be begun only after the Commission has employed its new, permanent Director.

Selection of a Permanent Director

As noted elsewhere, the Acting Director has been most cooperative in the study made by the consultant team. He has brought about improvements, especially in Department public relations. He is not a candidate for the permanent position of Department Director.

As it reviews this report and faces up to its responsibilities the Commission will be called upon to make technical and important decisions concerned with organization, with program improvements, with revising procedures, revising and establishing policies, and seeking legislative action. In general, these steps should be undertaken only when the Commission has selected a permanent Director, a man who is a trained administrator, preferably with experience in wildlife conservation and development and with reasonable political sagacity. **But he, by all means, should be a highly competent administrator.**

In order to obtain such a man and achieve the goals of reorganization discussed briefly below, the Commission must be able to offer higher compensation than is now legally possible. The present statutory rate of compensation ($8,600) is about half as much as the Commission should be able to offer if it is to obtain a man with the professional and administrative background essential to successful administration of the game and fish program.

Several years ago the statutory salary limit was by-passed, with doubtful legality, by placing the position under the Merit System at higher compensation. The Game and Fish Commission IMMEDIATELY should seek legislation which would remove this roadblock to initiation of the recommended organization and program improvements. The Commission should be authorized to set the Director's compensation, subject to approval by the Budget Director (the Governor), and subject to the standard that the compensation is not to exceed that allowed directors of other major state agencies.

Recommendation No. 2

It is recommended that the Commission immediately seek General Assembly approval for statutory authority for the Commission to set the salary of the Director, with the prior approval of the Budget Director, at a figure comparable to that paid directors of other major state agencies.

Preparation for Reorganization

When the permanent Director has been chosen, the Commission should with his help promptly determine the detailed plan for reorganizing the Department and the plan of implementation to be followed. A reorganization of the scale proposed in this chapter is not to be undertaken lightly; nor is its consummation to be expected overnight. It must be carefully planned, step by step; progress must be measured and reported between steps; attitudes must be carefully developed for acceptance and enthusiasm.

When the decision has been made as to the organization pattern, and the consultant team trusts that this will conform to the recommendations made later in this chapter, it is critically important for all employees of the Department to be given a thorough indoctrination and reorientation into the concept of the new plan.

This training should include thorough and competent explanation of the background for and concepts of the reorganization plan. It should include discussion of:

- Problems evident in, and inherent in, present organization.
- Benefits of the proposed plan for the people of Georgia in terms of improved recreational opportunities, properly developed natural resources, attractions to tourists and industry, etc.
- Benefits for Department employees through improved opportunities for promotion and personal growth, operation under merit principles, participation in development and carrying out of Department policies and procedures, and pride in organization.
- Long-range benefits for the State through forecasts of needs and plans to meet those needs.
- Steps, with timetable, to be taken toward reorganization.

Key supervisors selected for positions in the new organization plan should be trained by the new Director to participate in the training sessions, and their new responsibilities should be explained.

(An exhibit in Chapter III contains information on purposes, participants, subject matter, and other items related to this training need.)

The preliminary study period, the selection of key employees for the new positions and the shifting to fit Department needs, the development of the training program, and other preliminary steps probably will require several months. The training program should be set up to allow several days of reorientation for each group and probably will require several weeks to accomplish. Thereafter, shifts in job assignments should be made as persons needing special training finish this training and others are able to make necessary relocations. Over-all, it should be understood that a period of 12 to 18 months may elapse before relative stability is achieved. But this will be a small price to pay for a functioning, meritorious Department.

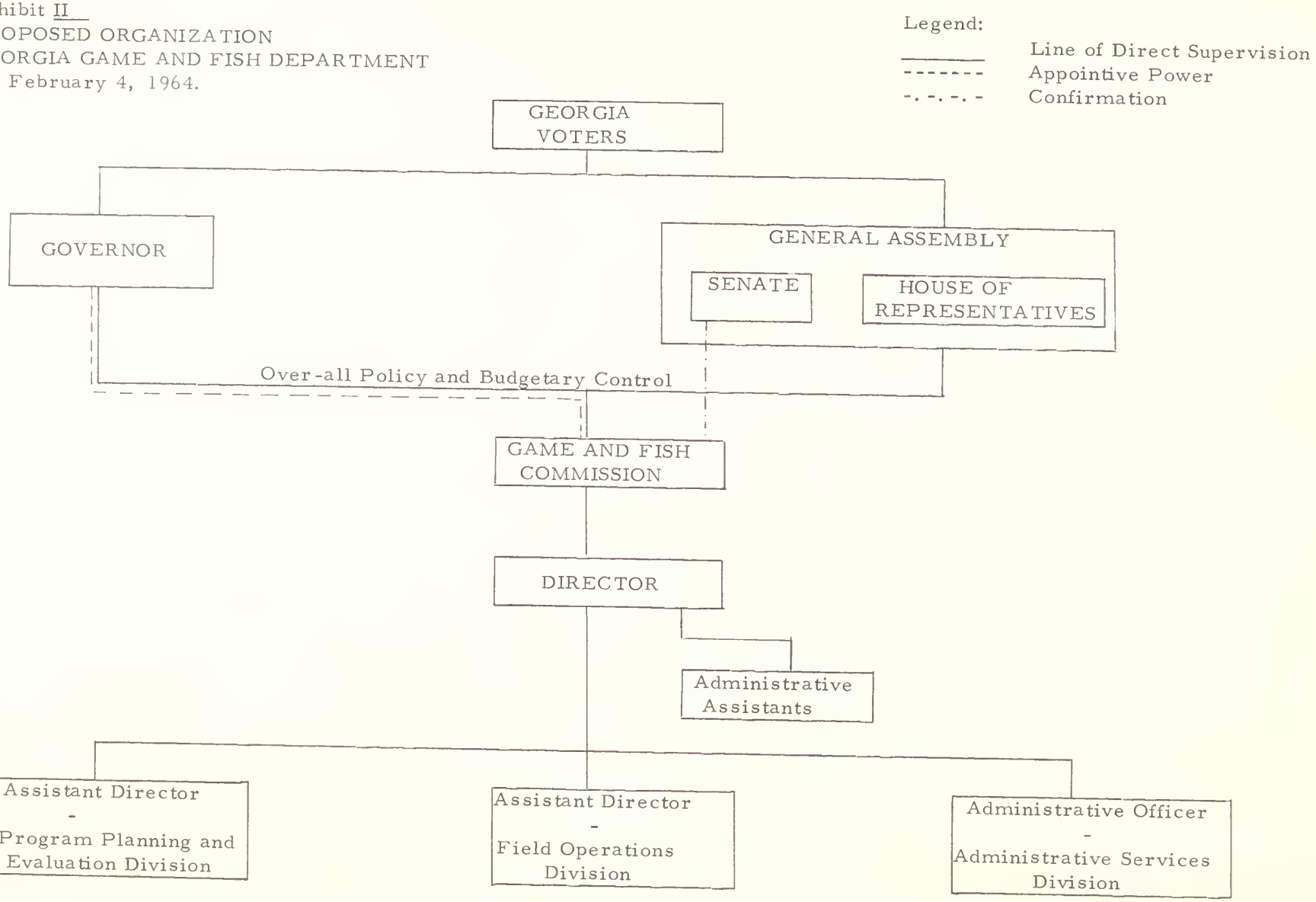
Recommendation No. 3

It is recommended that as soon as it has chosen its permanent Director, the Commission instruct him to initiate preliminary preparations for reorganization, including recommendations as to organization, recommendations as to persons for key positions, development of a reorientation training program, and definition of the successive steps to be taken in implementing the reorganization.

The Proposed Reorganization

For the Department to overcome present shortcomings, we have said, substantial reorganization is necessary. This reorganization must apply both to headquarters and to field activities.

Exhibit II
PROPOSED ORGANIZATION
GEORGIA GAME AND FISH DEPARTMENT
February 4, 1964.



It must provide for employee growth, development of administrators able to move to higher levels of responsibility within narrow functional areas and across broader program activities, development of specialists able to function at higher professional levels, better decision-making through involvement of employees (at all levels and in all activities) in development of policies and procedures, better intradepartment communication, over-all unified direction and coordinated field direction, and adequate planning with evaluation of program progress.

With the help of the Director, and after the plan of action has been carefully charted and approved, the Game and Fish Commission should reorganize the Department. The proposed plan of organization for the Department is shown as Exhibit II. Detailed information is provided in the succeeding exhibits and discussion in this chapter.

Recommendation No. 4

It is recommended that the Game and Fish Commission, with the help of the permanent Director, chart a plan for orderly reorganization and then approve reorganization to fit the pattern suggested below for coordinated planning and program evaluation, coordinated field operations, and centralized housekeeping services.

In the proposed structural arrangement the Director (a change of title to Executive Director may be appropriate) would have three people whom he could hold accountable for assigned portions of the over-all job of the Department. This would free much of his time to attend to the important task of dealing with other governmental agencies and developing proposals and administering controls over larger policy matters. To provide this relief from administrative details for Department programs and activities, the consultants recommend that three top assistants be provided for

- Program Planning and Evaluation
- Coordinating all Field Operations
- Furnishing all central housekeeping and business services.

The plan for operation of these three broad areas can be briefly summarized.

Program Planning and Evaluation Division

A Program Planning and Evaluation Division is proposed as the means for developing, for Commission review and decision, long-range goals and immediate objectives for each Department program. The division also would be responsible for field inspections to assess the degree to which approved programs are being carried out in accordance with controlling policies and within budgetary, procedural, time schedule, and other standards set by the Commission.

(Because program planning and evaluation of program performances have been largely ignored in the past, the importance of these assignments initially may not be obvious. Clearly, however, the planning and evaluation responsibilities are essential to good performance; and the success of the Department depends upon highly competent specialists concentrating their attention on these responsibilities.)

The work of the division would be coordinated by an Assistant Director, responsible directly to the Department Director for development of coordinated program goals and objectives and for season and harvest policies. After review by the Director these recommendations would be submitted to the Commission for its action. The Assistant Director also would submit the field evaluation reports on program progress to the Director for ultimate review by the Commission.

Working under the Assistant Director and responsible to him should be program specialists for each of the major programs of the Department, men especially qualified to plan wildlife conservation programs in game management, marine fishery resources, inland fisheries management,

Exhibit III
PROPOSED ORGANIZATION
GEORGIA GAME AND FISH DEPARTMENT
PROGRAM PLANNING AND EVALUATION
DIVISION
February 4, 1964.

Legend:
_____ Line of Direct Supervision

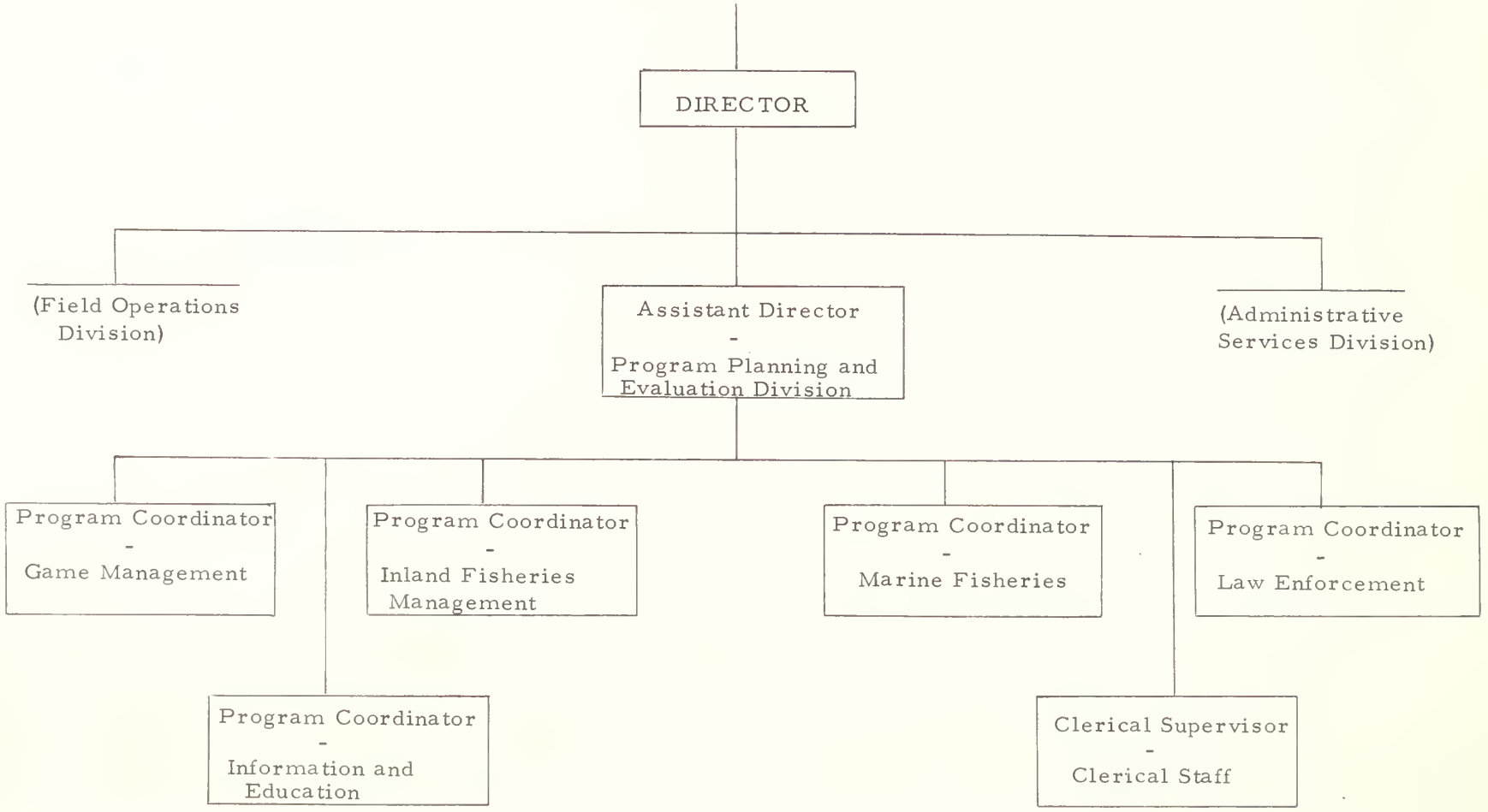
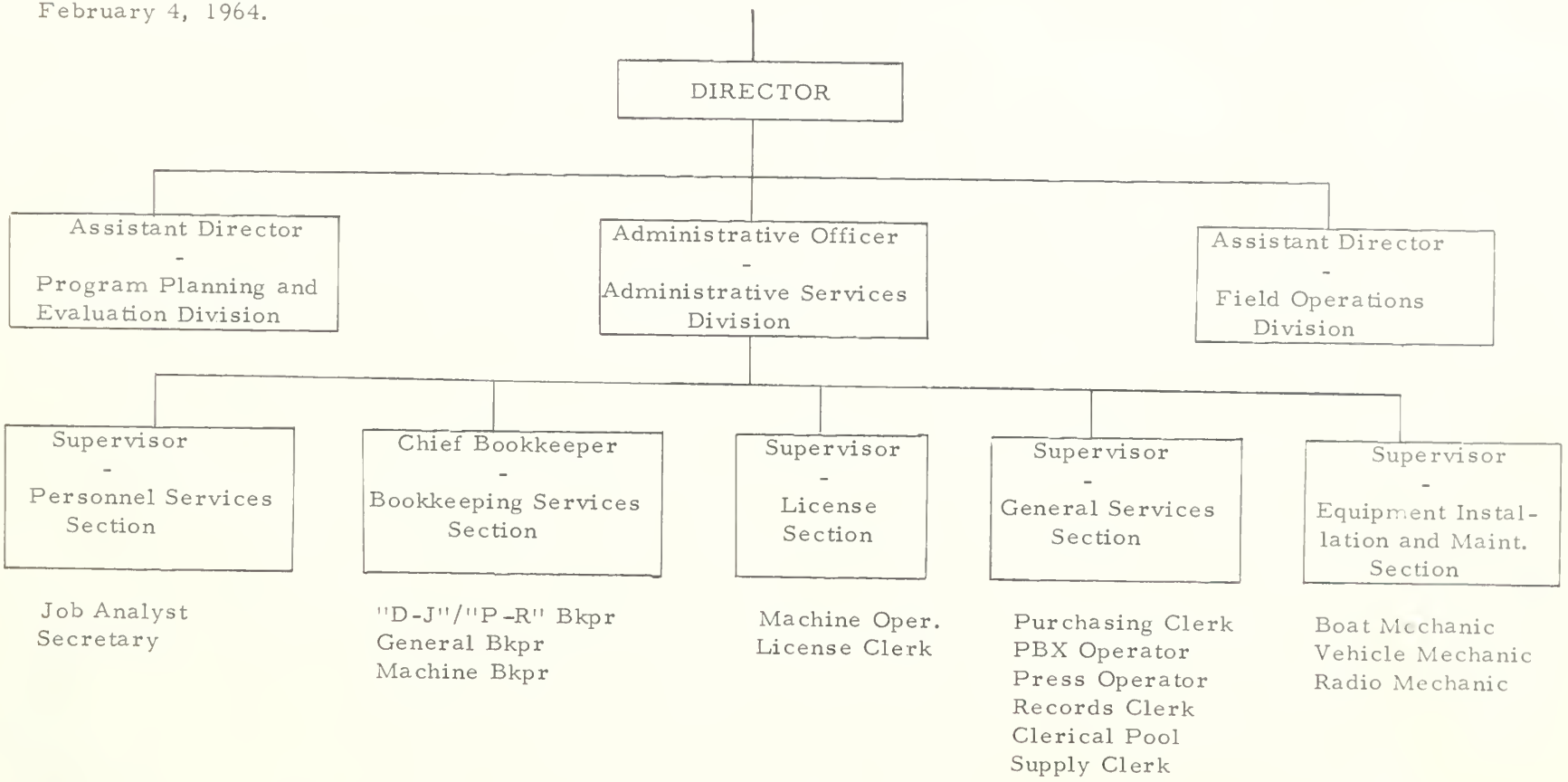

DIRECTOR
(Field Operations Division)
Assistant Director - Program Planning and Evaluation Division
(Administrative Services Division)
Program Coordinator - Game Management
Program Coordinator - Inland Fisheries Management
Program Coordinator - Marine Fisheries
Program Coordinator - Law Enforcement
Program Coordinator - Information and Education
Clerical Supervisor - Clerical Staff

Exhibit IV
PROPOSED ORGANIZATION
GEORGIA GAME AND FISH DEPARTMENT
ADMINISTRATIVE SERVICES DIVISION
February 4, 1964.

Legend:
_____ Line of Direct Supervision



Note: Position listings are intended to indicate types, but not numbers, of employee positions.

law enforcement, information and education, etc. In each instance they should be able to determine the extent of field compliance with approved programs and the source of failures. In each program adequate staff support should be provided to do the job properly since from this group of specialists must come the framework for all Department activities. From them must come the suggestions as to where to go, how long to take to get there, the paths to be followed in going, the costs and handicaps to be overcome, the benefits of arriving, and the cause for delays and detours enroute. They also should be competent to devise new goals or paths needed to correct past errors in planning or performance revealed in their field evaluations.

All plans would, of course, be developed in consultation with key field employees, with regional managers, and with the Assistant Director for Field Operations.

Administrative Services Division

An Administrative Services Division is proposed as the means for furnishing all "housekeeping" activities such as license sales control, general accounting, property acquisition and control, recordkeeping, budgeting, payroll, personnel administration services, purchasing and supply, mail and messenger services, equipment maintenance, etc. The operating field offices would be relieved of responsibility for these activities except for the forms and records by which the activities are requested and processed.

An Administrative Officer, assisted by supervisors for Personnel, General Services, Accounting, License Control, and Equipment Installation and Maintenance, would report directly to the Department Director. The chart showing the general pattern of the Proposed Organization for this division appears on page 29, as Exhibit IV.

Field Operations Division

The Field Operations Division is the third, and by far the largest, division proposed. This division would be responsible for all field activities of the Department, including the actual implementation of programs of game management, fisheries management, marine research, law enforcement, etc. The Assistant Director for Field Operations would report to the Department Director and be accountable to him for all field operations and for operating them on a coordinated basis. He would have the responsibility for seeing that approved program plans are carried out in accordance with approved schedules and within approved budgetary limits and applicable policies and procedures. He would assist the Program Planning and Evaluation Division in developing program goals and immediate objectives since he would be aware of many difficulties to be overcome in implementing any action plan.

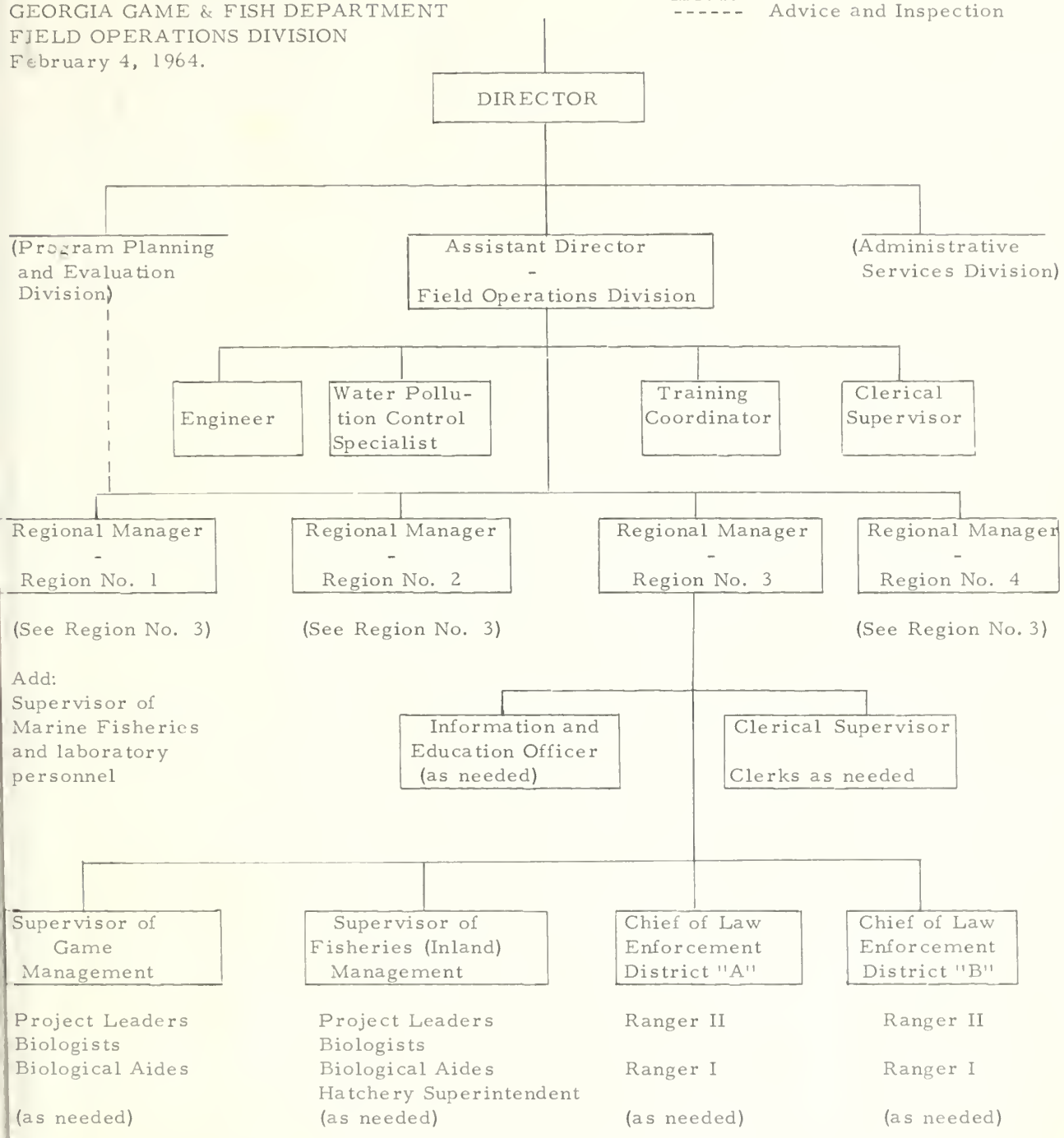
Within his headquarters staff the Assistant Director would have an Engineer to assist in planning the engineering aspects of all land development projects, assist in land acquisition where the Department seeks ownership, assist in developing construction plans for any Department facilities, and oversee all construction and major facility repair projects.

A Water Pollution Control Specialist would assist in training rangers and biologists in detection of water pollution problems, assessment of severity of pollution, preservation of evidence, and similar tasks. He also would arrange for laboratory tests to be made to determine the biological and chemical content of waters suspected to be polluted to permit tracing the pollutants to their source. He would work with the appropriate Water Control agency of the State and with polluters to try to eliminate future problems, exercising whatever powers are vested in the Department in accordance with Commission-approved policies.

A Training Coordinator would also be provided as a key assistant to the Assistant Director for Field Operations. His first task would be to develop a comprehensive training-orientation pr gram for all present employees to make clear to them the reasons for the shift to a new

Exhibit V
PROPOSED ORGANIZATION
GEORGIA GAME & FISH DEPARTMENT
FIELD OPERATIONS DIVISION
February 4, 1964.

Legend:
_____ Line of Direct Supervision
------ Advice and Inspection



organization pattern, to inform them as to the advantages of the proposed plan, and instruct them in the proposed relationships and operating patterns intended to result. Obviously, he would draw heavily upon the Commission-adopted policies under which the proposed plan was ordered and upon such back-up materials as this report in preparing this training-orientation group of sessions. Later he would embark on general in-service training programs of the type outlined in the chapter on Personnel Administration (Chapter III).

To make it possible for the Assistant Director to meet the responsibility of coordinating field activities, it is proposed that the State be divided into four regions for the administration of game and fish programs. A Regional Manager, chosen strictly on the basis of ability and responsible to and under the direction of the Assistant Director, would be in charge of each of these regions. Each Regional Manager would have, each must have, within his region complete administrative and supervisory authority to accompany his responsibility for coordinating all field activities within his region. He would have authority to assign employees and reassign them, use properties, spend budgetary allowances, and apply other Department resources within the limits of Commission policy and procedures and policy guidelines established by the Director and the Assistant Director for Field Operations. Quite obviously, the authority would be granted in order for the Regional Manager to be able to carry out the program plans established by the Commission for his region.

Regional boundaries for each region should be established by the Game and Fish Commission. Such factors as population; population density; level of fish, wildlife, and other activities; problems and workload anticipations; complexity of continuing programs; and similar matters should be considered in establishing the boundaries. The consultant team suggests that a regional pattern generally similar to that shown in Exhibit VI, page 33, would appear to meet most standards rather well. This arrangement would provide for a Southeast or Coastal Region, a Southwest Region, a Central Region, and a Northern or Mountain Region.

Under the regional coordination plan each Regional Manager would have at least four key, "line" supervisors who would report to him upon specified field activities. A Supervisor for Game Management would have direct authority and responsibility for all game research, management, and development work in the region. A Supervisor for Fisheries Management would have similar responsibility and authority for all inland fisheries work. In the Southeast or Coastal Region there also would be a Supervisor for Marine Fisheries who would be responsible for the Marine Laboratory and research program and other marine fisheries management work in that region. In each region there would normally be TWO law enforcement districts. In each of these districts a Chief for District Law Enforcement would have the necessary authority and the responsibility for operating a competent law enforcement program adapted to the region and district needs and problems. Generally, no district headquarters would be located at the regional headquarters but radio and other communications should provide necessary communication links for continuing coordination.

Although "line" direction would flow downward from the Director through the Assistant Director and through the Regional Manager to the respective Supervisors and their men, there would also be a continuing relationship of "functional" or "program" guidance from the specialists in the Program Planning and Evaluation Division. These specialists would be observing, conferring, reporting, planning. The field personnel, in turn, as a result of actual performance experience, would be pointing up problems and needs, unanticipated difficulties, weaknesses in the plan, and other aspects of program operations. The coordinated efforts of all groups should have tremendous benefits for the Department.

This arrangement of fixed responsibilities, operation within prescribed and written policies and other standards, compliance with merit principles, independent program planning and field inspection of program progress with field involvement, depth reporting to the Director and the Commission, long-range planning and planning of short-run objectives, development and codifica-

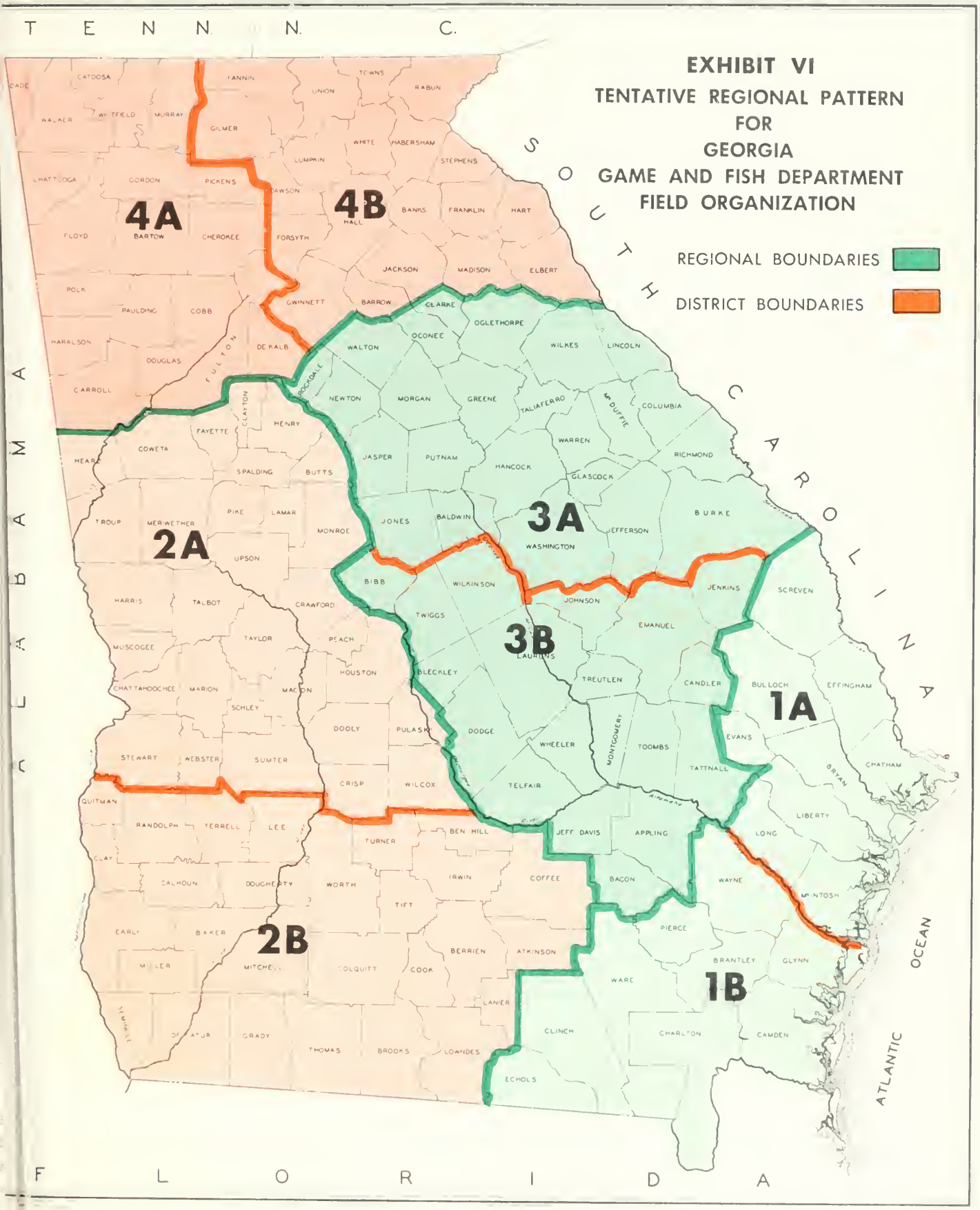


EXHIBIT VI
TENTATIVE REGIONAL PATTERN
FOR
GEORGIA
GAME AND FISH DEPARTMENT
FIELD ORGANIZATION
REGIONAL BOUNDARIES
DISTRICT BOUNDARIES
4A
4B
3A
3B
2A
2B
1A
1B
TENN.
N. C.
S. C.
GA.
ALA.
FLORIDA
ATLANTIC OCEAN

tion of policies and procedures, and FIELD COORDINATION to make maximum use of all employees and of their skills and time . . . clearly this arrangement should provide a sound basis for building a strong Department and a sound and strong program of fish and wildlife conservation and development.

More than anything else, however, it depends upon a properly functioning Game and Fish Commission.

III. SELECTED ADMINISTRATIVE SERVICES

To a few Department activities the consultant team gave only cursory attention because the economic or program value of intensive attention obviously would be much less than if comparable attention were given to more basic programs and activities. In general, the consultant team gave little attention to general accounting, procedures for license administration, equipment installation and maintenance, and other housekeeping activities.

Within the general area of "supportive" or housekeeping activities, however, several are of special importance, and to these the consultant team did give considerable attention. In a number of instances such key activities as personnel administration problems have been covered in chapters on law enforcement (Chapter VIII), Game Management (Chapter VII), etc. This chapter covers selected topics relating to personnel management and to the Department's Information and Education program as well as several business practices of the Department. While these represent a mixture of topics, each is quite important to the proper operation of the Department, to providing adequate support to program activities, and to building respect from the outside and within the Department.

Topics discussed in this chapter include Employee Classification and Compensation, Employee Training, Information Activities, Equipment Replacement, and Supply Services.

EMPLOYEE CLASSIFICATION AND COMPENSATION

Since 1956 the Game and Fish Department has been under the State Merit System. Positions in the Department, therefore, have been subjected to the classification policies of the Merit System. Due to staff limitations the State Merit System is able to provide only token field services in maintaining accurate classification for each position of the more than 16,000 separate covered positions and more than 1340 separate classes. Accordingly, each department operating under the Merit System must assume a high degree of responsibility for accuracy of classifications and must be continually alert to detect misallocation of its jobs among the various job classes and, thus, among the various pay grades in the Compensation Plan.

To meet its responsibilities the Game and Fish Department Personnel Section must frequently review existing position classifications, making "desk" or "field" audits to determine that the position description forms accurately portray duties, working conditions, and the job prerequisites in experience, education, physical qualifications, and ability to handle responsibilities. The Section must do this for positions in all occupational series: clerical, administrative, biological, and law enforcement.

While final determination of classification is the responsibility of the Merit System staff, the efficiency and completeness with which departments work up classification information and verify job description forms by audits greatly affects the accuracy of the final classifications set by the Merit System.

Compensation for each job, under the Position Classification Plan, is dependent upon the allocation of particular jobs to position classes which, in turn, are allocated to certain pay grades in the Compensation Plan. Because the Department has no control over the Compensation Plan, its only means of seeing that compensation fits the job is to make sure that each position is properly classified.

The Personnel Section staff does not include a job analyst.

EMPLOYEE TRAINING

As discussed in some detail in Chapter II (History, Functions, and Organization) and in Chapter VIII (Law Enforcement), the Department has a policy requiring annual training for

its ranger force which it has NOT followed. It has not attempted to provide training for other employees. In effect, today the Department provides no formal inservice training for its employees. Several years ago rangers were given training in regard to new boat licensing and control procedures, and for a few years before that annual training programs were held for rangers.

In-service training has long been recognized by private industry as the most direct line between desired management goals and the most efficient and economic utilization of human resources to attain such goals. Hence, training for sales employees, production workers, and even managers has been common in private enterprise for a number of years. Many public jurisdictions also have established programs. However, in public employment training has usually been the first "non-essential" or luxury" activity dropped when budget requests are cut. Unfortunately, the Game and Fish Department followed this policy.

The Department has continued to provide "buddy" system training for rangers, usually over a six months period. Biologists have served under more experienced biologists; and clerical employees frequently are overlapped with leaving employees to permit training.

As noted elsewhere, the Department has not established policy and procedural manuals and has not used regular periodical performance ratings as a training device.

INFORMATION AND EDUCATION ACTIVITIES

No attempt has been made to make an exhaustive study of Department Information and Education activities. Early in the study it became apparent that the present program is very weak, and that this weakness contributes to other Department difficulties, particularly those due to inadequate public and sportsmen's groups' understanding of Department programs and needs. To a considerable degree weakness in the activity stems from inadequate financing.

The law requires the Department to prepare and distribute an annual report of its operations, programs, income and expenditures. This has **not** been done, and the Commission has not demanded it.

Department policy calls for issuance of a monthly magazine; in practice, for financial reasons, the magazine is issued semi-annually. Presently about 28,000 persons receive the magazine, at no cost, upon request.

The Department uses news media for spot announcements and apparently can expect reasonably good coverage on fishing and hunting conditions because of the interest of the audiences reached. The Department has no organized program of wildlife education for children through the schools and youth groups; nor does it have an organized, centrally planned and financed program of displays for county fairs, garden shows, and similar exhibits.

The Department has relatively expensive press equipment which it uses for its limited program of issuing regulations and handbooks for sportsmen and for printing its own forms and similar materials. It uses commercial services for typesetting, plate-making, and binding.

SELECTED BUSINESS PRACTICES

Several important business practices of special importance to the rangers are discussed in Chapter VIII. Those discussed here are important to the rangers and to other groups as well.

Equipment Replacement

The Department furnishes a pickup truck to each ranger and furnishes station wagon and jeeps to other employees to meet their particular needs. At this time vehicles are replaced primarily when no alternative remains. This usually means purchases of half-ton pickups and other vehicles are made in lots of five or six vehicles. An active ranger, with normal territory to cover, will drive approximately 24,000 miles annually.

A number of pickups now in service have been driven more than 100,000 miles; at least a few have odometer readings of about 125,000 miles. This pattern of replacement does not fit that of those state fleet agencies across the nation which have made careful studies of when to replace equipment.

Equipment Repairs

Vehicles now can be repaired by approval of district chiefs when the cost of repairs will be less than $15.00; by approval of the district chief and radio approval from Atlanta if the cost will be less than $50.00; and only with prior WRITTEN approval from Atlanta when the cost is to exceed $50.00. Comparable patterns exist for vehicles used by other field employees.

Boat repairs are made only at the Department shops at Chamblee and Brunswick.

Gasoline Purchases

The Department issues a number of oil company credit cards to each employee who is assigned a Department vehicle. Gasoline purchases are made at retail service stations. The oil companies consolidate purchases and submit monthly billings to the Department. Within a month an employee may buy from five or six companies and, to spread his business and carry good will, through even more retail outlets. All purchases are made at the local RETAIL PRICE.

Oil and uniforms are warehoused at Chamblee. Several independent sources have estimated that at least one trip per month is made from each of the eleven districts to Chamblee warehouse to obtain oil or uniforms or similar materials. States which have investigated alternative means of obtaining oil have found less expensive contractual systems. The oil is, however, bought on a contract basis so that the price at the warehouse is more favorable than it would be at a retail station. Uniforms also are bought under contract arrangements.

PROBLEMS

It is apparent that significant problems exist in each of the areas described above.

Employee Classification and Compensation

So long as the Department has no job analyst, it is unlikely to meet its responsibilities for submitting accurate information and suitable recommendations for position classifications.

The Department's improvizations in position classification to overcome its lack of a job analyst have resulted in poor techniques and the following undesirable attributes of Department position classifications:

- A tendency to classify people rather than positions.
- Lack of supporting data for reclassification requests.
- Reliance upon revision of reported descriptions rather than audited facts concerning the job as it exists.
- Failure to relate duties and requirements to Department work systems with a resulting failure to improve defective systems to provide better manpower utilization.
- Failure to see the need for improved promotional opportunity and more position gradations for such important job series as ranger and biologist and use of more gradations than warranted in such series as hatchery personnel (superintendent and assistant superintendent) and biological aides.

Action by top management, based on considerations other than position classification standards, has at times made the problems more difficult to handle.

Training

The lack of a program of regular in-service training has created severe handicaps for both the Department and the employees, not the least of which is filling a Department position which requires coordinating abilities.

Information Activities

The lack of adequate communications of Department income and expenditures, decisions, program successes and failures, needs, and wildlife recreation opportunities has contributed to a general lowering of faith in the Department. Failure to obtain approval to charge for its magazine has caused the Department to curtail production of one of its better media for improving relationships.

Business Activities

Failure to establish reasonable standards for vehicle replacement, perhaps largely due to budgetary limitations, has been self-defeating. Expenditures for repairs and idle time of employees waiting for equipment probably have cost more than properly planned replacement at earlier intervals. Doubt concerning vehicle reliability also makes much difference in pursuit of violators and other situations.

The Department could have made much better use of money spent on retail purchases of gasoline, to haul oil and uniforms from Chamblee, and to haul boats to Chamblee and Brunswick. Delays for repair approvals have hampered field operations.

PROPOSALS

Changes are needed in each of the activities discussed above.

With the proposed reorganization a number of jobs will undergo sustantial change. Such positions as regional manager, regional supervisor for game management, and regional supervisor for fish management will be completely new. The headquarters specialists positions in Program Planning and Evaluation will be substantially altered from "line" to "staff" positions. Other changes also will be made.

These changes provide an excellent time for the Department to undertake a complete clean-up of its classifications.

Recommendation No. 1

It is recommended that the Department make a general review of all position classifications both to correct existing errors and to provide a sound basis for shifting the proposed organization.

While the Compensation Plan is a centrally developed plan, the Game and Fish Department is entitled to show, and must show, the need for restructuring internal relationships of positions within the Department and, if possible, to set its key jobs against benchmark jobs in other agencies to show the need for reallocations of certain of its jobs. Internal pay relationships are important to the Department, and it is responsible for making clear to the State Merit System the Department views on these relationships. Deficiencies in internal relationships can be prime causative factors of poor morale and poor performance.

Recommendation No. 2

It is recommended that the Department carefully study internal relationships and allocations of Department positions to pay grades in the State Compensation Plan and then present specific information to justify improved status for Department positions. The Person-

nel Officer should prepare studies defining compensable factors and requirements of key job classes and request careful review by the State Merit System staff.

Training

As an integral part of the revamping of the Department's organization and program improvements, the Department must initiate a sound training program. The Department badly needs a three-phased training program.

Phase I

Of **prime** importance and **high priority** is a plan of training to achieve a reorientation of existing personnel to the structural reorganization of the Department. This training phase must provide a clear definition of the problems under the present plan, the concepts underlying the proposed organization, the advantages of the new plan to the Department and its employees, and the ways the new plan is intended to work and the roles of each group of employees in making it work.

Many of the items included in Phase I training will also be important subjects for use in training new recruits.

Phase II

A second phase of training is that required to orient new employees to the Department as rangers, biologists, etc. This training should include general orientation and stress the interdependency of the primary functions. It also should provide detailed instruction on policies and special procedures to be followed by the new employee in his particular assignment.

Phase III

The Department should offer advanced training to round out skills and develop abilities, especially for employees considered to have high promotional potentialities, either within their specialties as rangers or biologists (etc.) or for broader administrative and management careers. Assistance in this program should be obtained from the State Merit System and from Georgia's institutions of higher education. Employees who wish to take educational leave or arrange special work schedules to permit them to take college level coursework should be assisted, if possible.

Refresher training should be provided all employees at regular intervals.

Recommendation No. 3

It is recommended that the Department undertake a three-phase training program designed to reorient existing employees, orient and provide basic training to new employees, provide for advanced training for interested employees with high promotional potential. In addition, refresher training should be provided all employees at regular intervals.

Exhibit I is a suggested general outline for the materials which should be encompassed in each phase, the employees who should be involved, and the purpose of each element in the proposed training program. The program must be built from the ground up. Problems relating to course structure for each course, composition and size of groups to receive training, scheduling and related logistics, and similar matters should be carefully developed by a special Department Training Committee.

Recommendation No. 4

It is recommended that a Department Committee for Training be established and charged with responsibility for implementing the proposed three-phase training program. The Committee should be assisted by the Training Coordinator proposed in Chapter II.

EXHIBIT 1: SUGGESTED OUTLINE FOR TRAINING

TRAINING AREA	PURPOSE	PHASE	COMPOSITION OF GROUP: Ranger	Biologist	Others	Status	LEVEL
I. ORGANIZATION AND ADMINISTRATION							
A. Our Mission & Public Service	A. Basic Objectives and						
1. Recreation	Public Service	I	✓	✓	✓	P-N	All
2. Resource Utilization and Development		I	✓	✓	✓	P-N	"
B. Organization & Functions	B. Formal organization						
1. Our Commission	structure	I	✓	✓	✓	P-N	"
2. Our Department	(to re-orient	I	✓	✓	✓	P-N	"
3. Financial Structure	present and acquaint	I	✓	✓	✓	P-N	"
4. History	new employees with	I	✓	✓	✓	P-N	"
5. Re-organization - 1964	function, chain of						
a. Concept	command, underlying	I	✓	✓	✓	P-N	"
b. New roles to play	concepts, program	I	✓	✓	✓	P	"
1. Programs	direction, expected	I	✓	✓	✓	P-N	"
2. Regions	results, and employee	I	✓	✓	✓	P-N	"
3. Districts	guidance.	I	✓	✓	✓	P-N	"
4. Staffing & Assignments		I	✓	✓	✓	P	"
5. Procedure Changes		I	✓	✓	✓	P	"
c. Contemplated Results							
1. Co-ordination		I	✓	✓	✓	P-N	"
2. Supervision		I	✓	✓	✓	P-N	"
3. Planning		I	✓	✓	✓	P-N	"
4. Economy & Efficiency		I	✓	✓	✓	P-N	"
5. Level of Service		I	✓	✓	✓	P-N	"
d. Aids to the Employee							
1. Training		I	✓	✓	✓	P-N	"
2. Experience		I	✓	✓	✓	P-N	"
3. Satisfaction Goals		I	✓	✓	✓	P-N	"
4. Communications		I	✓	✓	✓	P-N	"
C. State of Georgia	C. General ecosociological						
1. Geography	patterns and natural re-						
a. Elementary	sources of the State;	I	✓	✓		N	Entrance
b. Advanced	advance level of instruc-	II	✓	✓		P	Entr., Interm. Supv (1-2)*
2. Population Information	tion would indicate						
a. Elementary	specialized instruction	I	✓	✓		N	Entrance
b. Advanced	of increasing difficulty	II	✓	✓		P	Entr., Interm., Supv. (1-2)
	i.e. population - density-						
3. Natural Resources	land management and						
a. Elementary	enforcement aspect.	I	✓	✓	✓	N	Entrance
b. Advanced	Elementary discussion	II	✓	✓		P	Entr., Interm., Supv. (1-2)
	of the characteristics of						
4. Government, State	our state government.	I	✓	✓	✓	P-N	All
a. Executive							
b. Legislative							
c. Judicial							
D. Fish & Wildlife Management and Preservation	D. General emphasis on planned programming and						
1. Principles and Objectives	utilization of resources	I	✓	✓	✓	P-N	"
2. History	as a necessary safeguard	I	✓	✓		P-N	"
3. Methods Used	to the future. Economically	I	✓	✓		P-N	"
4. Current Programs and Projects	affects many groups and interests, in addition to sportsmen. Provides an outline of current projects and efforts in this direction. Also serves to indicate interdependency of our programs.	I	✓	✓		P-N	"
E. Regulation & Enforcement	E. Explanation of pertinent						
1. Why Needed	laws, portrayal of enforce-	I	✓	✓	✓	P-N	All
2. Current Laws-General	ment in a positive,	I	✓	✓	✓	N	Entrance
Current Laws-Specific	impartial and preventative	I-II	✓	✓		P-N	All
3. Enforcement - General	manner. Indicate causative	I	✓	✓		N	Entrance
Enforcement - Specific	factors influencing the	I-II	✓	✓		P-N	All
4. Interpretation	establishment of laws and	I	✓	✓		P	All
5. Application	regulations; provide better	I	✓	✓		P	All
6. Preventative Enforcement	understanding of problems encountered in impartial enforcement and prose- cution. Applicable laws and regulations in depth for technical personnel.	I	✓	✓		P-N	All
F. Continuing Research	F. As a tool used to insure						
1. Principles & Objectives	continued progress and	I	✓	✓	✓	P-N	All
2. History	development; perfection	I	✓	✓		P-N	All
3. Methods Used	of better techniques for	I	✓	✓		P	All
4. Current Programs and Projects	Fish & Game Management.	I	✓	✓		P	All
5. Field Visitation	Efforts and results to date; Positive Examples.	I	✓	✓		P-N	Entrance
G. Supervisory Planning	G. Identify difficult	I	✓	✓	✓	P	Supv. (1, 2, 3)
1. Specific Changeover problems	transition problems for						
a. Procedure	line supervisors; learn						
b. Implementation	facilitating techniques of						
2. Staff Assignments	planning, organizing and						
3. Activity Reporting	doing. Install first line						
4. Need for Close Supervision	criticism as a constructive						
5. Improved Communications Techniques	device to measure, evaluate and correct program						
6. Finance & Budget	inadequacies.						
7. Coordination							
8. Program evaluation							

TRAINING AREA	PURPOSE	PHASE	COMPOSITION OF GROUP				LEVEL
			Ranger	Biologist	Others	Status	
Fish Management							
A. Theory and Objectives	A-						
1. Elementary	H. Provides knowledge and understanding of the technical area and program; graduated levels of difficulty; content embraces aims, objectives, problems, methods and techniques employed, current developments by program specialization and specific projects. Federal projects and restrictions in depth; and extension services.	I				P-N	Entrance
2. Intermediate		II				P-N	Entr., Bio., Intm., Supv-Ranger
3. Advanced		II				P-N	Supv. -Bio.
B. Problems of Fish Management							
1. Intermediate		II				P-N	Ent. -Bio, Ranger-All
2. Advanced		II				P-N	Supv. -Bio.
C. Species, Ecology and Related		II				P-N	Entrance-Advanced
D. Hatchery Operation		II				P-N	" "
E. Stocking		II				P-N	" "
F. Water Pollution		II				P-N	" "
G. Federal Programs		II				P-N	" "
H. Current Biological Methods and Procedures							
1. Planning							
2. Control							
a. Seasons							
b. Limits							
3. Inspection							
4. Rehabilitation							
5. Predation & Disease							
I. Construction and Engineering		II				P-N	" "
J. Advanced, Specialized Coursework leading to professional development[a]		III				P-N	Bio I, II, III
Game Management							
A. Theory and Objectives	A-						
1. Elementary	J. Provides knowledge and understanding of the technical area and program; graduated levels of difficulty; content embraces aims, objectives, problems, methods and techniques employed, current developments by program specialization and specific projects. Federal projects and restrictions in depth; and extension services.	I				P-N	Entrance
2. Intermediate		II				P-N	Bio. -Ranger
3. Advanced		II				P-N	Entr. Bio., Interm. Supv. -Ranger
B. Problems of Game Management							
1. Intermediate		II				P-N	Supv. Bio.
2. Advanced		II				P-N	Entr. -Bio., Ranger - All
C. Game and Foul - species, ecology and related		II				P-N	Supv. Bio
D. Game Farm Operation		II				P-N	Entrance-Advanced
E. Land Management & Federal Programs		II				P-N	" "
F. Cover		II				P-N	" "
G. Stocking		II				P-N	" "
H. Current biological methods and procedures		II				P-N	" "
1. Planning							
2. Control							
a. Seasons							
b. Limits							
3. Inspection							
4. Field Management							
5. Predation & Disease							
I. Construction and Engineering		II				P-N	" "
J. Advanced, Specialized Coursework leading to professional development.[a]		III				P-N	Bio. 1, 2, 3
Marine and Coastal Program	A-						
A. Theory and Objectives	1. Curriculum should prepare ground for parallel staff & program development. Emphasis on effecting better understanding with business groups and part of increased program research and higher service level. Advanced levels of instruction should be handpicked by top management. Technical area of assignments will require concentrated coverage of in-service and off-premises training.	I				P-N	Entrance
1. Elementary		II				P-N	Entr. -Bio, Inter. & Supv. -Ranger
2. Intermediate		II				P-N	Supv. -Bio.
3. Advanced		II				P-N	Entr. -Bio., Ranger - all
B. Current Problems		II				P-N	Supv. Bio.
1. Intermediate		II				P-N	Entrance-Advanced
2. Advanced		II				P-N	Entrance-Advanced
C. Species, Ecology and Related		II				P-N	Supv.
D. Commercial Fisheries		II				P-N	Entrance-Advanced
1. History		II				P-N	Advanced
2. Economics of Business		II				P-N	Entrance-Advanced
E. Federal Programs							
F Laboratory & Research							
G. Pollution and Disease							
H. Current biological methods and procedures							
1. Planning							
2. Control							
3. Inspection							
4. Rehabilitation							
Advanced Specialized Training leading to professional development[a]		III				P-N	Bio. 1, 2, 3

TRAINING AREA	PURPOSE	PHASE	COMPOSITION OF GROUP				LEVEL
			Ranger	Biological	Others	Status	
V. The Ranger	A -	1	✓			P-N	Entrance and Intermediate
A. Preliminary Indoctrination	D. New Ranger service concept; redirect program emphasis through this sub-structure.						
1. Uniform							
2. Proper Dress							
3. Conduct and Discipline							
B. Public Service							
1. Public Contact							
2. Assistance & Information							
3. Impartial Service and Enforcement							
4. Need for Training							
C. Objectives of Enforcement							
D. Responsibility for Other Programs							
1. Specific Duties							
2. Preventative Maintenance							
E. Law, Rules and Regulations	E. - Sharpen skills within existing						
1. Specific Purpose	P. procedure; and provide understanding and technique for new or modified assignments. General content in this sub-structure should be along municipal training lines for public safety personnel.						
2. Specific Interpretation							
3. Specific Application							
4. Case Studies							
5. History of Legislation							
F. Licensing							
1. Structure							
2. Purpose							
3. Control							
4. Inspection							
G. Enforcement Procedure							
1. Relations with other police officials and jurisdictions							
2. Routine Patrol							
a. Fish							
b. Game							
3. Special Patrol							
a. Seasons							
b. Night							
4. Investigations							
5. Collection and Preservation of evidence [b]							
6. Interrogation and Disposition [b]							
7. Laws of Arrest, Search and Seizure [b]							
8. Techniques of arrest, Search and Seizure [b]							
9. In custody - special problems [b]							
H. Court Procedures							
1. Legal Assistance							
2. Decorum							
3. Presenting Testimony							
4. Mock Court							
I. Use and Care of Firearms [b]							
J. First Aid and Lifesaving [c]							
K. Preparation of Reports							
L. Communications							
M. Transportation							
N. Safety							
O. Your Purchases							
P. Self Reliance and Independent Judgment							
Q. Commission Day							
VI. Supplemental Instruction (Partial) [d]	A. -						
A. Public Relations	E. General area of instruction partially developed for universal content. Certain specialization necessary for technical employee, i. e. Statistics.	III					
1. Public Speaking							
2. Special Groups							
B. Report Writing							
C. Principles of Management							
D. Personnel Administration							
1. Effective Supervision							
2. Human Relations							
E. Statistics							

SOURCE OF TECHNICAL ASSISTANCE IN TRAINING

a Colleges and Universities
b Public Safety Department
c American Red Cross Society
d State Merit System

Definition of Terms

Phase I - initial reorientation of present personnel to structural reorganization of the Department. Redefinition of basic concepts. In addition, contains general orientation features for new employees.

Phase II - directed towards line personnel in the classes of Wildlife Ranger and Biologist. Interdependency of functions and specific procedures training. Training of this nature would be of a continuing duration.

Phase III - courses designed to round out skills and develop abilities. Potential candidates for promotion can be equipped for the future through career and management courses dealing with effective supervision, principles of management and related instruction.

Training Area are the functions and areas of course content typical of a desired, general coverage.

Purpose is a brief statement of need and indication of desired objectives.

Composition of Group is a general delineation of those classifications to be considered for the specific area of instruction. The sub-heading of Status indicates applicability of the instruction P - present employees; N - new employees. The sub-heading of Level indicates both the general level of classifications and degree of complexity found in the specific course structure.

In addition to the Training Coordinator, the Committee should include one member from each major specialty area: Game Management, Fisheries Management, Law Enforcement, Education and Information, Marine Fisheries, and Management. The Assistant Director for Field Operations should serve as chairman of the Committee and direct actual implementation of the program. Help also should be obtained from specialists at the University of Georgia and from the Merit System.

The Committee, in addition to developing the program in detail, should attempt to establish criteria and means for measuring the effectiveness of the various elements of the training program.

Careful attention also should be given to two supporting training devices: (1) the development and use of policy and procedure manuals and (2) a program of rotating employees among regions and specialty tasks sufficiently that high potential employees would have the opportunity to learn about various programs and activities of the Department, be associated with a number of different supervisors and leaders, and be able to demonstrate their talents and growing abilities to numerous key leaders.

More attention to morale-building as a training device also is needed. The Department should consider issuing an internal monthly newsletter to provide information about Department activities and policies to all employees.

Education and Information

The Department should undertake aggressive programs to fill the existing voids in its information program. It needs basic information on each program (such as that described for Law Enforcement in Chapter VIII) to be compiled and widely distributed each year. Commission decisions should be more widely known. It needs to develop displays for schools, county fairs, garden shows, and similar activities which attract important segments of the public. It needs to develop informational programs for use in the schools of the State to nurture interest in wildlife conservation and in outdoor recreations of hunting, fishing, boating, etc. Rangers should figure prominently in programs beamed at sportsmen's clubs, and biologists should be available to many civic groups to discuss natural resource opportunities in Georgia.

A magazine should be published monthly but on a subscription fee basis, with the fee adequate to meet operating costs. Moreover, the use of advertising to meet some of its costs should be explored. Such a magazine, **if well done,** has considerable appeal as an advertising medium to manufacturers and vendors of sporting goods and camping equipment.

The Department also should review the costs of its present print shop and invite the Purchasing Department to make a careful study of the advantages of operating the shop as compared to having all work done by commercial printers or centralizing this equipment in some central service agency where the Department and other agencies could obtain services on a purchase basis.

Recommendation No. 5

It is recommended that the Department review its education-information program to step up its activities with schools, youth groups, sportsmen's and farm groups, fairs, and similar groups; convert its free semi-annual magazine to a monthly subscription-paid self-supporting magazine with possible use of advertising; and review with the Purchasing Department the best use of its existing press shop facilities.

Business Practices

The existing practices of the Department in replacing equipment, purchasing gasoline, distributing oil and uniforms, and repairing equipment all need restudy.

Recommendation No. 6

It is recommended that the Commission establish a Business Practice Committee to include the State Supervisor of Purchases, the State Budget Officer, and key supervisory personnel within the Game and Fish Department to review present practices on equipment replacement and repair, distribution of oil and uniforms, purchase of gasoline, and similar practices.

The Committee, it is believed, will develop standards for equipment replacement approximating three to four years of service and/or 60,000 to 75,000 miles of service; will recommend replacement in lots of 30 to 50 vehicles instead of lots of five to six; will recommend purchase of gasoline under state contract and, at a few locations, from other state departments or by drawing from Department bulk tanks and obtaining oil under state contract at local bulk stations of a selected major oil company; and will recommend the mailing of uniforms with one employee in each district or region designated as the official "measurer" for uniform orders and as the warehousemen for reserve supplies.

It is also believed the Committee will suggest that district chiefs and regional supervisors have authority to approve repairs up to approximately $200, with the Regional Manager and the Assistant Director being informed of accidents and major breakdowns to assist them in planning replacements. Boat repairs, except for major overhauls, probably will be handled through local boat shops or selected car dealer shops.

The Department also should establish central control over the purchase of heavy machinery such as bulldozers, tractors, etc. The Engineer should review specifications and probable workload figures and submit recommendations. The Department also may wish to explore contracting with State Highway Department or local governments for "road" work to avoid investing in such heavy equipment. Idle equipment is costly; and moving such equipment, to use it, is not inexpensive.

SUMMATION

The Department has a number of special problems which affect efficiency and economy of Department programs. Inadequacies in position classification lead to compensation problems for Department employees, in turn affecting morale and performance. The lack of training programs seriously detracts from employee knowledge and understanding of over-all program responsibilities, and reduces opportunity for employee development and promotion. The Department also is hurt by inadequacies in the information and education activities, and uneconomic handling of equipment repair and replacement, gasoline purchases, and oil and uniform distributions.

The Department should make an all-out effort to obtain suitable classification for the new positions proposed in the reorganization and to fit all of its jobs into a proper internal pay relationship. It should also seek an upward adjustment of pay for critical positions.

With the help of a Department Training Committee a three-phase training program of reorientation for present employees, orientation and specialty training for new employees, and advanced training for high potential employees should be set up and given priority. In addition, refresher training should be given all employees at regular intervals.

Contract purchasing of gasoline and regional arrangements for distribution of oil and uniforms and for repair authorizations should be provided. Equipment replacement schedules should be developed which will minimize lost time and high maintenance costs. To develop specific proposals for purchasing and distribution a Business Practices Committee should be established.

A considerably expanded information-education program should be developed and pushed throughout the State, will all employees participating.

IV. REVENUE SOURCES AND FUTURE NEEDS

Under Georgia statutes and the rules and regulations of the Game and Fish Commission, the Department is responsible for a number of activities which the General Assembly has approved for financial support. Support also is provided by using grants made by the national government under stated conditions for specified purposes.

GRANTS

While there are other minor grant programs available, two grant programs administered by the U. S. Fish and Wildlife Service of the national government are of prime importance in any consideration of support of Department programs. The Service administers a program for game research, restoration, and development, commonly referred to as the "P-R" program because it is administered under the provisions of the Pittman-Robertson Act. A similar program, called the "D-J" program after the Dingell-Johnson Act under which it is administered, provides for a fish research, restoration, and development program.

Under each of these two grant programs the national government provides three dollars for each State dollar designated for use for these purposes on approved projects. If the State does not put up its matching dollar, the three national government dollars are reallocated among other states which have provided over-matching amounts.

Grant sums are limited to an amount no greater than the State's pro rata share of the proceeds to the national government from excise taxes on hunting and fishing equipment sales, respectively. The states share in the "P-R" program on the basis of their share of the national total of land area and licensed hunters. They share in the "D-J" program on the basis of their share of the national total of water areas and licensed fishermen.

In order to qualify for the grants the states must provide the matching dollars. They also must have prior project approval for the use of the program dollars (federal and state). And they must use in the total state wildlife program an amount of dollars at least equal to the sum of the state's receipts from license fees charged fishermen and hunters, and other income derived from their game and fish operations.

Under the Georgia Constitution fees from hunting and fishing licenses (and most other receipts of the State) are deposited to the General Fund. However, by general statute, the General Assembly has met the "earmarking" requirement regarding these license fees and other game and fish income by pledging to appropriate to the Georgia Game and Fish Commission ". . . each year, at least such amount . . . (as equals) all funds resulting from the operation of the State Game and Fish Commission . . . excluding fines, but including all license fees and other income."

The General Assembly by general law also has "assented" to the conditions set forth in the two federal statutes so that the Department can qualify for the two grant programs.

Although, as discussed in more detail below, the General Assembly has appropriated considerably more dollars for wildlife programs than have been received from license fees, Georgia budgets have caused the Department to lapse back for use by other states more than $500,000 of grant dollars during the past six years. At the moment this drouth seems to have been corrected, but the Department has qualified for some grant dollars under approved, but nevertheless dubious, projects. Obviously, there is grave risk when programs are "stretched" to fit activities which are not clearly within the purposes of the controlling legislation.

THE STATE GENERAL FUND

As mentioned earlier, the Department has two primary revenue sources, the federal grants and appropriations from the State's General Fund.

Although required only to appropriate as much as the fees and other Department income produce, the General Assembly has in fact regularly exceeded this amount in its appropriations from the General Fund to the Department. For the fiscal year ending June 30, 1962, the Department deposited fee receipts of $1,101,177 to the General Fund. For the fiscal year 1963-64 and for the fiscal year 1964-65 (the next appropriating period after June 30, 1962) the Assembly appropriated $1,585,000 or approximately $480,000 above the amount received in fees.

From the standpoint of appropriations in relation to fee income, therefore, it is hard to make a case for parsimonious treatment of the Department. Nevertheless, the Department's important wildlife programs have been starved on woefully inadequate budgets. Obviously, such starvation must be related either to the allocations by programs or to inadequacies in the total amounts produced by the fees and therefore available from the General Fund for Department programs. A case could be made for both situations, but the real problem has been simply a lack of adequate revenues.

DEPARTMENT RESOURCES

As noted above, for each of the fiscal years of the current biennium the General Assembly has appropriated $1,585,000 for the Department. "P.-R" and "D-J" grants add $561,102. Thus, the Department has $2,146,102 available for each year. For 1963-64 these dollars have been budgeted as follows:

By Major Expenditure Object		By Broad Program		
Personal Services	$1,218,510	Law Enforcement		$ 995,800
Other Expenses	920,092	Fish Programs		
		Management	141,666	
Capital Outlay	7,500	"D-J"	186,735	
				328,401
		Game Programs		
		Management	25,000	
		"P-R"	561,401	
				586,401
		Administration		235,500
Total	$2,146,102	Total		$2,146,102

Note: The "D-J" and "P-R" items relate to Dingell-Johnson and Pittman-Robertson, the two federal grant acts for fish and game programs, respectively. The figures include both state and federal dollars (1 to 3 ratio).

This budget for 1963-64 in state dollars is more than $1,000,000 below the Department's original request. It is $65,000 below the Governor's recommendation. It is $10,000 below the amount actually appropriated to the Department in 1960-61, 1961-62, and 1962-63.

WILDLIFE PROGRAM NEEDS

Numerous needs of the State for improved wildlife conservation, development and protection have not been met and cannot be met within the current level of appropriations. The Department has not developed long-range plans to set the goals to be achieved; but in any case, it could not have implemented such plans had they been available. Its needs for land acquisition and development, development of other management areas for public fishing areas, etc., go considerably beyond the levels possible under the existing support program.

Many existing facilities need to be overhauled. As described in the chapter on Fisheries Management, the hatcheries at Summerville and Cordele are in special need as the two prime elements of the propagation program; and other hatcheries are in need of remodeling for conversion to more appropriate uses.

Department equipment needs present serious operating problems. The pickups used by rangers are driven too many miles and are too expensively maintained for lack of adequate appropriations to support a reasonable replacement schedule.

The Department's compensation schedules for biologists and for rangers are lower than is desirable. In the past six years the Department has lost 13 biologists. Its total complement is 21. Moreover, it currently needs a dozen additional biologists, and over the next five years it should add about ten more.

At various times budgetary problems have caused the Department to cut back on expense allowances for employees operating away from home during the day. Other questionable economies have been used to reduce out-of-pocket expenditures.

Law enforcement is considered greatly inadequate in the coastal region by both sports and commercial fishermen. There is general agreement that more enforcement personnel are needed in other areas of the State. The loss in the past six years of 73 rangers, which obviously has handicapped enforcement, at least partially has been due to inadequate budgets and pay.

The Department since 1943 has been aware of the need for an adequate program of research in Marine Biology to protect, and now restore, its marine fishery resources. There still is no laboratory and no marine biologists to do this work. The Department also has no biologists and chemists to protect against water pollution problems or even to study them. And it has no engineering talent to work on its land and building projects.

There also is the pressing problem of adequate financing for a comprehensive marine resources research, rehabilitation, and management program, most of which will benefit the commercial fishing and processing industry and not the angling license buyers.

While complaints rightfully can be made that the Department's use of its appropriations has not always been wise or prudent, there can be little doubt that substantial handicaps have been faced because appropriations have been inadequate to meet the needs of a far-sighted program.

LICENSE FEE STRUCTURE

In the words of one consultant, quickly confirmed by all other members of the consultant team, "The Georgia (license) fees are quite a bargain." An analysis of license fees clearly demonstrates that the Georgia fees are too low. They are generally below those of neighboring states and considerably below those of states with active, progressive programs of wildlife development and conservation. Because of these low fees, revenues are considerably below the level needed to support an adequate program of development and conservation of Georgia's wildlife resources.

The income to the Department from the commercial fishing industry is derived from boat licenses and tags, commercial fishing licenses, oyster tags, and shad licenses. Due to the unusually low fees involved, the revenue amounted to only $10,320 for the year ending June 30, 1963, scarcely enough to finance two average-pay rangers for one year.

Within the fee structure there are problems. Several groups are exempt from license fees. A number of states issue "junior licenses" to interested fishermen and hunters below age 16. Most states require licenses of any fisherman or hunter after he once reaches the licensing age until he discontinues participation in the sports. Georgia exempts the "juniors" and exempts those 65 by granting to the latter group "honorary" permanent, no-fee licenses. Georgia also exempts from license fee requirements those fishermen who fish only in salt waters. Georgia, unlike

many leading states, has no special deer, trout, and other additional licenses, "stamps", or tags" for which fees are charged in order to support more expensive activities in which a smaller proportion of sportsmen participate.

LICENSE ADMINISTRATION

The Department issues more than 30 distinct licenses. The Atlanta headquarters staff makes direct sales of special licenses for such groups as trappers, fur dealers, minnow dealers, private hunting preserve operators, and licenses needed by other small groups. The coastal district sells commercial fishing licenses, but otherwise department field employees sell no licenses.

Presently some 1,275 agents throughout the State handle license sales to hunters and fishermen, resident and non-resident. In their first year (unless they have been appointed at the request of a legislator) agents are required to prepay for licenses consigned to them. Thereafter, if they handle the account satisfactorily, licenses are shipped to them on a consignment basis with the agent paying for licenses only as he periodically reports his sales with attached copies of licenses sold.

For his service in selling licenses the agent receives a fee of $.25 for each license sold. He is provided a bond to protect the State against his failure to remit license fees. The State's premium for the blanket bond to cover all agents is approximately $8,000 annually.

At various times some agents have used license fee income as working capital, or at least by delaying remittances to the Department they have had use of the fee income for several months. Currently the Department is pressing collections more vigorously and will use rangers to call upon agents who are slow in reporting.

Across the nation authority to sell fishing and hunting licenses is considered a business asset. At least one State has had to prohibit its agents from selling licenses at a discount. One firm had advertised licenses as "loss leaders" at a discount in order to encourage sportsmen to patronize the chain's stores for shells, guns, rods, reels, lures, and many other outdoor recreation items.

The Department has no record of the number of "honorary" licenses now held by persons over age 65. The Atlanta office, each day, issues about 35 to 50 such licenses. District offices also issue "honorary" licenses upon request.

Duplicate licenses now are issued upon request at no cost to the applicant. Department records do not permit a cross-check to determine that the license being issued is, in fact, a duplicate. The Department could, of course, determine whether such a license had been actually issued by a check with the agent reported by the applicant to have issued the license.

The Department has not seriously reviewed its policy of using agents, but it has given some consideration to the use of a machine system for preparing licenses and accounting for license sales.

PROBLEMS

Several notable problems are apparent in the Department's licensing program. Most significant, of course, is the difficulty caused in all Department activities by the inadequate fee structure. Under the present structure the Department can do little but hold the line, progressively less satisfactorily year by year.

Holding the line in the face of the explosively growing interest across the nation in outdoor recreation is just another way of saying that Georgia is not interested in the tourist dollars of sportsmen seeking good hunting and fishing in its mountain areas, its southwestern quail country, its small game and warmwater fishing in central Georgia, or its potentially highly productive

waterfowl and marine fishery along the coast. Holding the line means that Georgia is not interested in providing adequate law enforcement to protect its game and fish in periods of propagation and growth nor in preventing excessive, over-limit harvests by the greedy. Holding the line means that Georgia has no wish to appeal to enlightened industrial managers who realize the appeal which outdoor recreation has to employees and will, therefore, when considering plant locations, give a "plus" on the scoresheet to those states which provide these benefits. Holding the line means that Georgia is not willing to plan ahead to make certain that its future wildlife resources will meet future demands.

Georgia, of course, is NOT interested in just holding the line. Georgians want dollars spent right, and they are willing to provide needed dollars through increased license fees — as demonstrated by the attitudes of the many sportsmen who have assured the Department and this consultant team of their willingness to support higher fees.

There also are problems of administration. It is difficult to see why the State should provide bonds at State expense for protection against its agents who well know that selling licenses is a profitable enterprise because it attracts sportsmen who buy other items.

Granting exemptions to youths from 12 to 16, to persons over age 65, and to persons who fish only in salt waters discriminates against the many who do not fall in these categories but perhaps make no greater demands on the wildlife resources of the State. Granting duplicate licenses at no charge also wastes the money of those who pay license fees intended to provide wildlife programs. Under present filing systems, moreover, the Department has no real assurance that an original license was ever issued.

The agency system itself can be questioned — particularly if it is to remain as costly and as difficult to control.

PROPOSALS

To overcome present difficulties a substantial adjustment of the fee structure is necessary. Some reforms in administration also are appropriate.

The Fee Structure

The consultant team has given much attention to the fee structure. After extensive study and consultation the team has developed a schedule of proposed fees. The proposed schedule would achieve two fundamental changes:

(1) It would remove present exemptions and the special privileges which they accord to a few sportsmen at the expense of others.

(2) It would bring Georgia license fees more nearly in line with those of other states.

The changed fees which would result from the proposed schedule are compared with existing fees in Table I below. The proposed increases are quite modest: only $1.00 each, establishing a fee of $2.00 (net to the State) for a fishing license and $3.00 (net to the State) for a hunting license, or $5.00 for the combination license.

The proposed schedule would eliminate exemptions. Junior sportsmen (ages 12 to 16) would be permitted to purchase a "junior license" at $1.00 for each of the sports. Sportsmen reaching age 65 after January 1, 1965, would purchase the regular license at the regular fee, but existing "honorary" licenses would remain in effect. Sportsmen now fishing in salt waters only would buy the regular fishing license and have full access to all waters.

Adoption of these modest increases and elimination of the exemptions would permit approximate doubling of Department appropriations. This would permit the Department to move ahead on programs more adequate to the needs of the State.

TABLE I

Georgia Game and Fish License Fees

License	(State Share) Present Fee*	(State Share) Proposed Fee
Resident Fishing	$1.00	$2.00
Resident Hunting	2.00	3.00
Combination Resident Hunting-Fishing	3.00	5.00
Saltwater Angling	-0-	2.00**
Junior Hunting (Ages 12-16)	-0-	1.00
Junior Fishing (Ages 12-16)	-0-	1.00
"Honorary" (reaching age 65 after 1-1-65)		
Hunting	-0-	3.00†
Fishing	-0-	2.00†
Trout Stamp	-0-	2.00
Deer Stamp	-0-	3.00
Duplicate license		
Junior license	-0-	.50
All others	-0-	1.00

Note: Present fees for non-resident licenses seem adequate.

*To the stated figure an agent's fee of $.25 must be added to obtain the present cost to the hunter or fisherman.

**This saltwater fee would be required only of fishermen who did not have a fishing license. A single fishing license would qualify all fishermen to fish in both inland and marine waters. Present law (§ 45-225) is ambiguous on requirements.

†Present license holders would not be affected.

The proposed schedule would still leave Georgia fees "quite a bargain," Table II compares the proposed license fees with the range of fees charged by other states.

TABLE II

Comparison of **Proposed** License Fees and Fees Now Charged by Other States*

RESIDENT FEES ONLY

Fishing License Fees

Fee Amount Range	Number of States
Up to $1.50	1
$1.51 to $2.25	11
$2.26 to $2.50	2
$2.51 to $3.00	9
Above $3.00	21
No separate license indicated	3

Proposed Georgia fee $2.00 Net 32 of 47 reporting states have a higher fee than that proposed.**

Hunting License Fees

Fee Amount Range	Number of States
Up to $2.00	6
$2.01 to $2.50	5
$2.51 to $3.25	14
$3.26 to $4.00	6
Above $4.00	12
No separate license indicated	6

Proposed Georgia fee $3.00 Net 18 of 47 reporting states have a higher fee than that proposed.**

TABLE II (Continued)

Combination (Fishing & Hunting)	
Up to $2.50	1
$2.51 to $3.00	1
$3.00 to $4.00	3
$4.01 to 5.25	6
$5.26 to $6.00	3
Above $6.00	8

Proposed Georgia fee 5.00 Net
11 of 22 reporting states will have a higher fee than that provided.**

No Combination (Total of two Separate Fees)	
Up to $2.50	1
$2.51 to $3.00	2
$3.01 to $4.00	2
$4.01 to $5.25	3
$5.26 to $6.00	7
Above $6.00	10

Proposed Georgia (combination) $5.00 Net
17 of 25 reporting states will have a higher fee than that proposed.**

For the 47 states reporting either a combination or no combination hunting-fishing license, 27 have a higher rate than that proposed for Georgia.

*Source: **Comparison of License Fees,** compiled by Pennsylvania Game Commission, 1963.

For these comparisons an agent's fee of 25c has been **added to the proposed Georgia **net** fee.

Recommendation No. 1

It is recommended that the Game and Fish Commission seek favorable action by the General Assembly to adjust resident hunting and fishing fees to the proposed schedule and also to remove existing exemptions for junior sportsmen between ages 12 and 16, older sportsmen newly reached age 65, and saltwater anglers.

Recommendation No. 2

It is recommended that in any case a charge should be made, as stated in the proposed schedule, for the issuance of duplicate licenses.

Recommendation No. 3

It is recommended that the additional revenues be appropriated to the Game and Fish Department. If more game and fish revenue becomes essential, a special $1.00 permit fee be collected from those who hunt or fish in the Chattahoochee National Forest for a cooperative game and fish habitat improvement program. Adequate support from general sources also should be provided.

License Administration

The present practice of paying the bond for 1,275 license agents and of allowing some late reporting of fee receipts should be corrected promptly. The Department does, of course, need protection against possible defalcation although the rate of defalcations doubtless would be quite low provided the Department established and operated a close follow-up routine for collections.

The bond could be handled by the Department continuing to obtain a blanket bond and allocating the cost back to the agents. Alternatively, the Department could require each agent to provide his own bond.

Recommendation No. 4

It is recommended that the Department establish some system by which agents pay the cost of the bond required as protection to the State against failure to remit license fee collections.

There is a general belief that sportsmen who once obtain a fishing or hunting license will tend to renew it as long as they are able to participate in outdoor sports. If this be true, the Department should seriously **explore the possibility** of eliminating the agent system over a period of a few years and substituting a system of annual renewal notices mailed by the Department to each licensee. The notice should be designed to serve as an application for license which would become the license when duly validated by Department machine processes and returned to the sportsman. Alternatively, it could be machine processed to produce a new license and the next year's renewal notice, the latter to be mailed at a prescribed time in the annual cycle.

Such a procedure could be modeled closely on systems used in other states to handle driver license renewals, insurance agent and solicitor renewals, and other licensing operations. The Department could also establish from its copy of the appearance notices (see Chapter VIII on Law Enforcement) a tickler file which could be used to deny licenses to persons convicted of too many violations or improper actions in the field. If such persons persisted in fishing and hunting and were caught, they could be prosecuted for such acts without a license.

If the Department designed its system around the use of punched cards or electronic tapes (assuming that a service center operation, rather than Department equipment is used), it could also run statistics as a by-product of the license renewals. Questions on the renewal notice could be framed to inquire as to the sportsman's interests so that the Department could use this information in planning its programs. Statistics on sportsmen and on their interests could be compiled for help in identifying trends and needs.

The Department also could use its files to check on duplicate license requests. It could account for collections daily and be assured the money was not being temporarily used for other purposes. It could eliminate the time now lost by rangers who must occasionally call on delinquent agents to obtain their reports and encourage more rapid mailing of collections.

It spite of these advantages, the Department should move slowly. Such a plan might inconvenience sportsmen if not properly planned, particularly in the early years before they become accustomed to applying in advance of the day they wish to hunt or fish. It also might stir some resentment among vendors of sporting equipment and supplies who have become accustomed to providing this service to the Department and now might feel the Department should continue to use them.

In all probability, however, the Department by careful planning could reduce the cost of handling licenses by such a system. Spread among more than 700,000 sportsmen the extra cost to the Department for the machine service, postage on the renewal and on the license, and the necessary processing clerks and equipment operators would be unlikely to cost as much as half the amount produced by the twenty-five cent fee now charged on every license.

Recommendation No. 5

It is recommended that the Department review the present agency system of handling licenses and give careful consideration to the advantages and disadvantages of developing a program of annual renewal notices and statistical compilations, with resultant file controls, to be handled by the Department with the assistance of a computer service center.

Commercial Fishing Fees

The commercial fishermen have repeatedly stated their willingness to contribute their fair share of the cost of a comprehensive fisheries research and management program. The income from fees presently paid by the industry is wholly inadequate to finance the kind of program believed to be the minimum that should be undertaken. In a number of states services which benefit the commercial fisheries are financed by appropriate tonnage fees imposed upon processors, commercial fishermen and fish products.

Recommendation No. 6

It is recommended that the Commission review the several fees and licenses paid by commercial fishermen, and that appropriate revenue producing recommendations be submitted to the General Assembly for consideration not later than the 1965 session.

SUMMATION

In order to meet the State's needs for a more comprehensive, more fully planned, and more adequately operating program of wildlife development and conservation, it is proposed that license fees be adjusted upward by nominal amounts and that existing fee exemptions be eliminated.

It is further suggested that the fee scale for commercial fishermen be reviewed and materially increased to provide essential revenue for a comprehensive marine fisheries research and management program.

It also is suggested that the Department find means of charging back to its license agents the cost of the bond required of them. Further, the Department should carefully explore the possibility of assuming responsibility for mailing an annual renewal notice-license application form as the means of renewing licenses in lieu of the agency system.

Adoption of the fee proposals will mean greatly enhanced outdoor recreation opportunities for Georgians, and provide funds for a commercial fisheries program that will greatly benefit the State's economy. Administrative improvements can make the entire program a better balanced and more economical one.

V. GEORGIA'S INLAND FISHERY PROGRAM

Potential fishing waters abound in Georgia; availability to the public is limited. With seven large rivers Georgia fishermen have 2,818 miles of potential fishing waters; and 3,000 miles of warmwater tributaries provide additional fishing or, through impoundments, opportunities to produce fishing lakes. Public access to these streams, however, is very inadequate.

Seventeen major reservoirs built for power production, flood control and other purposes provide approximately 349,000 acres of public fishing water. Additional impoundments are planned or are under construction. Despite problems in fishery management because of fluctuating levels, tailwater effects, etc., Department studies show that these reservoirs yield good catches of important game and food species.

In North Georgia, and primarily within the Chattahoochee National Forest, are 700 miles of trout streams, largely available to the public. During the past year the Department has developed an important tailwater trout fishery in the Chattahoochee River, below Lake Lanier, through fall stocking with advanced fingerling rainbow and brown trout. This is big water with a potential for providing a great deal of excellent fishing close to Atlanta. Lake Burton, Rabun Lake, and other large impoundments, according to surveys, are capable of supporting trout. Judicious stocking may produce good fishing.

Small lakes and ponds provide another important source of fishing. There are at least 40,000 of these private "farm" ponds with an average size of 3.5 acres. Most are utilized by owners, their tenants, and their friends; but an unknown number are privately managed for paid public fishing.

FISHERY STAFFING AND ORGANIZATION

The Department's Fishery Management program is the responsibility of the Fisheries Division Chief who reports directly to the Department Director for all fishery programs, regardless of where performed, including fishery research, planning, development, restoration, conservation, and other fishery activities aside from law enforcement. The Fisheries Division Chief is assisted by an Assistant Chief who is responsible to him for warmwater fish hatchery operations through supervision of six hatchery superintendents and their nine assistant superintendents.

Three biologists report directly to the Chief for reservoir, pond, and trout projects, respectively. Two biologists (for North and South Georgia) are responsible to the reservoir project supervisor. Each is assisted by a biological aide. The pond project leader is assisted by two assistant biologists, each with a biological aide. The trout project leader is assisted by fish biological aides. Two recreation area supervisors also report directly to the Division Chief, one for High Falls and one for the newly acquired McDuffie area.

The Chief, in addition to his management responsibilities, represents the Commission on the governing board of the newly established Fisheries Unit at the University of Georgia and on the Water Quality Council of the Public Health Department.

The monthly payroll for the Division is approximately $13,000.00.

FACILITIES

The Fisheries Division operates hatcheries for trout, bass, and bream at Summerville; trout at Lake Burton; bream at Walton; and for bass and bream at Bowen Mill, Richmond Hill, and Steve Cocke. Table I provides data on staffing, location, number of ponds, acreage in production, and production of bass and bream in 1962-63 at each of these hatcheries. Bowen Mill and Richmond Hill considerably outproduced other hatcheries on bream, with Steve Cocke also having

TABLE I

WARMWATER FISH PRODUCTION
STATE AND FEDERAL HATCHERIES IN GEORGIA
1962-63

State Hatcheries

Name of Hatchery	County	Number of Personnel	Number of Ponds	Acres in Production	Production 1962-63 Bass*	Bream (70% Bluegills, 30% Red Approx.)
Bowen Mill	Ben Hill	2	17	19	10,000	2,106,450
Richmond Hill	Bryan	2	19	11.5	31,000	1,242,705
Summerville*	Chattooga	3	8	5	31,233	296,400
Walton	Walton	3	18	12	0	67,700
Steve Cocke (Dawson)	Terrell	2	17	15	16,275	879,550
Burton	Rabun	3	?	0	0	0
			Total Production		88,508	4,591,805

*Primarily trout rearing

**Late spring freeze said to have limited bass production except at Summerville.

Federal Hatcheries

							Others		
							Redear	Catfish	
Rock Creek	Fannin	5	0	5	0	0	—	—	(Trout)
Millen	Jenkins	6	25	107	790,442	1,667,337	756,903	155,396	—
Cohutta	Catoosa	4	12	62	24,360	646,205	363,675	105,195	—
Warm Springs	Meriwether	3	17	35	187,925	918,830	390,870	13,690	—
				Total	1,002,737	3,232,172	1,511,448	274,281	—

a relatively high production. Richmond Hill and Summerville led in bass production; and Burton produced about two-thirds of the trout (figures not shown).

A number of Fishery Division biologists are stationed at hatchery locations or other Department facilities. The trout biologist leader and his support team operate from Lake Burton hatchery. The reservoir biologist supervisor has headquarters at Walton; but his North Georgia assistant biologist is located at Gainesville and his South Georgia assistant at Tifton. The pond biological team is housed at the district law enforcement headquarters at Fort Valley. The building has a well-equipped laboratory. An assistant project leader for pond projects is also stationed at Tifton.

PROGRAM ACTIVITIES

As indicated by the organization and staffing, the Fishery Management program consists of three major research and management activities; trout streams, reservoirs, and small impoundments. Supporting these activities are the hatchery operations in which the Division produces trout, bass, and bream as shown on Table I. Emphasis has been on investigative, rather than management activities. The activities are also supplemented by basic research sponsored by the Department but performed, under a cooperative arrangement, by the University of Georgia. With the recent establishment of the Cooperative Fisheries Unit at the University, this research doubtless will be expanded.

Trout Fisheries

To supply the 700 miles of trout streams and the trailwater trout fishery below Lake Lanier on the Chattahoochee River the Department produced 375,000 catchable trout (8-11 inches) in 1962, an average of about 529 trout per mile of stream. Trout raised in the federal hatcheries and turned over to the State for stocking are included in these figures.

The Department manages 23 trout streams located on six wildlife management areas in the Chattahoochee National Forest. Fishermen in these waters check in through management area stations, pay a $1.00 per day fishing fee, and as they check out report their catches, the time spent fishing, and other information. In 1962 a total of 25,183 permits were issued. The areas are opened in May, and fishing is permitted from daylight to 7:00 p.m. Each stream is opened on two successive days, closed for a week, and re-opened except that on Mondays and Tuesdays the areas normally are closed for restocking.

Of the total of 375,000 trout stocked, 109,000 were placed in management area streams. For the marked hatchery trout in the management area streams the recovery rate was 75 per cent. On the average on a cumulative basis, marked fish made up 82 per cent of the catch. The managed area program produces for the average angler in one day a catch of 4.2 trout as compared to 2.2 trout on streams outside the management areas. Catches, however, from streams in the management areas vary widely, probably reflecting the success of natural reproduction as well as the stocking rate.

Native trout populations apparently have declined over the period (since 1954) during which trout stream studies have been conducted. Department biologists attribute this to heavy stocking of catchable hatchery trout. They now favor concentration of stocking in the more accessible streams with poor natural reproduction and light stocking, if any, in more remote, naturally good streams.

For a number of years the U. S. Forest Service has had a program of stream improvement designed to increase the shelter for trout and the number of fishing pools. Using Accelerated Public Works funds the Department, with consent of the Forest Service, has begun several stream improvement projects in the Chattahoochee National Forest designed to increase the number of pools. Department biologists hope to expand this program.

Reservoir Fisheries

Department biologists are making continuous studies of seven (of the State's 17) major reservoirs. Three have been under study since 1954. Using a sampling technique approved by the University of North Carolina Statistical Station, the Department conducts a creel census from March 1 to November 30. From the census about 70,000 records are processed each year at the Walton Hatchery data processing installation, the headquarters for reservoir investigations.

The Department makes fish population studies each spring and fall, determining age and growth of representative fish samples by direct reading of annuli in dry mounts and measuring the occurrence of thermal and chemical stratification by limnological studies. In some impoundments the Department has used gill nets and wire basket traps to study possibilities of commercial fishing for rough fish, has tagged to learn fish movements, and has sampled populations by using a boat shocker.

The reservoir project supervisor prepares an annual report on all phases of the research studies.

In its management program the Department has experimentally introduced white bass, walleyes, and threadfin shad with some success in certain reservoirs. In at least one large reservoir (Lake Blackshear) the Department used limited chemical treatment to eliminate rough fish and then stocked with good results. It also tried (but with doubtful results) limited commercial fishing to utilize and reduce carp and catfish populations where they were overabundant. The Department has scheduled for testing other management methods such as high size limits on bass.

Small Impoundments ("Farm Ponds")

With financial help from federal grant programs, the Department since 1954 has made studies of farm ponds. It has tested and continues to evaluate winter draw-downs and various methods of fertilization, weed control, and stocking. Biologists stationed at Fort Valley and Tifton make as many of the numerous requested pond surveys as possible. With 40,000 farm ponds estimated to be in use, the Department can test or survey only a portion of them.

The Department also furnishes advice as to construction and management of ponds to owners willing to cooperate in Department studies, which rely upon anglers who use the pond recording forms supplied by the Department to give the hours of fishing, pounds caught, size caught, and numbers of fish caught. A pan balance and measuring board are mounted at the pond for use in obtaining weight and size data.

Department hatcheries processed applications from 839 ponds in 1962-63 for bream and furnished 4.8 million fingerlings. They also processed 853 applications for bass and furnished more than one-half million fingerlings, of which 480,826 were supplied from federal hatcheries to the State for this purpose. Applicants must come to State hatcheries for the fish.

(Federal hatcheries directly processed 2,053 applications for bluegills and stocked Georgia ponds with 4.2 million; 2,200 applications for bass and furnished 1.3 million; and 2,038 applications for redear sunfish and stocked with 1.9 million. Applicants pick up federal fish on designated days at county seats.)

Other Program Activities

The Department's Fishery Division engaged in several additional activities, including programs of river fishing and recreation areas.

River Fishing. It is attempting to provide access to and simple development of access points at suitable intervals along river banks for bank fishing, wading, or boat fishing. The potential in the 17 large rivers and 2,818 miles of stream is significant, but the resource is so far greatly under used.

Recreation Areas. The Department in recent months has become involved in a new activity which historically has not been its responsibility. It has begun development of several recreational areas including facilities for camping and picnicking. At High Falls Lake it is constructing 13 camp sites with parking slabs, an access road, and pit toilets. The Department's Recreation Supervisor is using local labor and "D-J" aid dollars and obtaining further assistance from the county highway department. The Department has plans for another camping area at the site. It has built two picnic areas and two boat launching ramps. As many as 500 people use the High Falls Area each week, and as many as 100 camp there on week-ends.

At Lake Burton the Department is developing another camping area adjacent to its trout hatchery station. It will provide campsites for 30 campers. Under present plans hatchery employees will handle registrations, reservations, and campsite maintenance. A nominal camping charge will be made.

The Department plans still another recreation area development at the formerly private McDuffie shiner hatchery which it recently purchased for $109,500. Picnicking and camping will be permitted on the rolling, wooded 426 acres. The 16 ponds on the site are to be used for public fishing with a daily fee of $1.00 for each fisherman.

At the Cordele Hatchery, a former catfish commercial production plant, the Department plans another recreation area devoted primarily to public fishing and general recreation.

FISHERY MANAGEMENT PROBLEMS

The Department's fishery management efforts are handicapped by a number of problems: some associated directly with the major Department problems and others related strictly to the fishery program. The fishery management program suffers from Department organization weaknesses, especially the lack of field coordination; lack of adequate financial support; and lack of clearly defined policies as well as continuity in Department policies. It also suffers from misplaced emphasis on several activities and failure to place emphasis on others. Lack of an adequate number of biologists is a major source of problems. Internal planning and emphasis on divisional organization also is a handicap.

Problems Related to Specific Programs

The trout program is handicapped by present necessity to rely upon an inadequate hatchery for most of the production. Lake Burton hatchery operates with fluctuating water volume and temperatures which are inappropriate for a trout hatchery. Over-crowding in an effort to increase output is evident. As a result, disease has been hard to control. The other hatchery for trout, Summerville, is located at some distance (by Georgia standards) from the trout streams. However, it has an excellent water supply, and with considerable refurbishing this plant could be built up to take all or the major share of the trout production load now borne by Burton.

The warmwater fish hatchery program is beset with numerous problems, all of which are recognized by Department biologists. Several of the hatcheries are completely inadequate because of water pollution, pond construction, size, location and other difficulties. All need some, and several need extensive, reconditioning if they are to be used. Because of limited personnel for such activities, distribution of fish to farm ponds is largely uncontrolled; there are no requirements of inspection of ponds prior to restocking and so the restocking may be unnecessary or even inappropriate; there usually is no check on the accuracy of the pond owner's application statements; usually there can be no check on the reports he files; and there is no accurate information on how the pond is operated as to fees for fishing privileges. There is no adequate cross-check between the State and the National hatcheries to determine that the activities of either do not duplicate or counteract the efforts of the other. The program as conducted in the past has precluded the development of private hatcheries which meet these needs in a number of sections of the nation and give the advantage of a self-policing system of relating requests to the cost of the investment rather than encouraging profligate requests and careless distribution.

The Department's incursion into development of recreation areas duplicates the responsibilities of the Parks Department and imposes this activity upon a staff untrained for this work. It also diverts dollars from inadequately financed programs to operations which the Parks Department is supposed to handle. While multiple-use potentials for State facilities should be achieved, the quality of recreational planning and development almost certainly suffers from this unnecessary and unwise incursion into the work of another State department. Fortunately this now is being recognized by Department officials.

Much of the Department's management, natural propagation support work, and fishery development work is ultimately defeated by the lack of control over water pollution. Correction of this problem calls for carefully developed procedures, with due regard to implications to the whole Georgia situation.

PROPOSALS

The Fishery Management program will, of course, be substantially revised when the organization recommendations made in Chapter II have been implemented. The new organization should tend to encourage correction of other problems.

Organization and Staffing

As a part of that proposal, the field work will be coordinated through the decentralized regional program, with a fishery supervisor reporting to the regional manager for all fishery work in the region. The supervisor will supervise and coordinate the work of various project groups and will guide the management work in which rangers as well as biologists and biological aides will be involved.

Program planning and evaluation in fishery management will be the responsibility of the central division but will involve full participation by the field groups as outlined in Chapter II. The organizational proposals, based on program needs and deficiencies, will necessitate a considerable increase in the number of biologists engaged in fishery work.

Recommendation No. 1

It is recommended that the level of staffing and compensation for fishery biologists be substantially increased, with an increased number of gradations designed to bring graduate biologists into the Department with opportunity for promotion as they progress through lower level to more advanced program activities.

Biologists should enter, normally, at a Biologist I level in which they would work under Biologists II, the supervisors of particular research and development projects. The regional supervisor for all projects would normally be a Biologist III level and this same level might be used for some program specialists in the Program Planning and Evaluation Division with the chief biologist for fishery work being a Biologist IV. Provision also should be made for a sub-professional position of Biological Aide into which rangers might progress.

Within the central program planning and evaluation division there should be an Inland Fisheries Chief assisted by a Fish Management Specialist, a Fish Propagation Specialist, and a Fish Research Specialist.

Four biological aides should be provided at the Cooperative Fisheries Research Unit at the University of Georgia to work half or three-quarters time on course work and the balance of time being devoted to research.

An over-all increase in the number of biologists is badly needed, and at least six additional biologists (entry level) should be recruited immediately with several others added in the next five years.

Program Shifts

Misplaced emphasis in several programs and inadequacy of some facilities for the activity emphasis placed upon them were mentioned briefly in the discussion above. Corrective action is needed in regard to the hatchery work concerning trout and warmwater fish. The recreational program of the Department also needs to be re-examined.

Trout Hatcheries. The problems of water supply at Lake Burton makes its heavy use for trout propagation undesirable. Summerville, on the other hand, badly needs reconditioning and refurbishing but has an excellent water supply both as to volume and stable temperature. Burton facilities are quite adequate for other uses.

Recommendation No. 2

It is recommended that trout propagation at Lake Burton be reduced after 1964 and ultimately eliminated AFTER Summerville has been reconditioned and refurbished to assume the propagation load for trout. Burton should be developed as a trout holding station with minimal trout production and as the experimental station for trout. Summerville also should serve as the hatchery for walleye and smallmouth bass if tests in 1964 are favorable.

During 1964 the Department should obtain the services of an expert trout culturist to plan **complete remodeling** of the Summerville hatchery as a modern trout rearing station in order to utilize its excellent water supply. Probably the U. S. Fish and Wildlife Service will provide assistance, and help from a state with larger trout operations also might be available on a loan basis.

The Department also should experiment at Summerville, after its remodeling, with hatching walleye eggs and rearing walleye and smallmouth bass fingerlings in the larger ponds. Summerville's water clarity, constant temperature, and constant flow should be ideal for these operations. Largemouth bass and bream production at Summerville should be eliminated for they can be produced at other hatcheries more suitably located in respect to demand for these fish.

Lake Burton facilities should be used as a trout holding station and for headquarters for trout research and management operations. Limited production might be continued for a few years. (The recreational facilities should be handled by another agency as recommended later.)

Warmwater Hatcheries. A number of the warmwater hatcheries are not suitable for this use; others can be used more properly for public fishing or for fish management activities. Progress in shifting the usage of these hatcheries, as proposed below, must be carefully scheduled to fit reasonable requests made for fish and availability of fish from federal or other hatcheries to meet reasonable requests.

Recommendation No. 3

The Department should review the use of each of its warmwater fish hatcheries and adapt each to its best use. The following shifts are recommended.

- The **Walton** hatchery should be converted to other use. It should be the data processing center, and it should serve as a laboratory or experiment station with its ponds to be used for tests and experimentation by the Cooperative Fisheries Unit of the University of Georgia in cooperation with the Department.
- The **McDuffie** facility should be developed as a Fish Management area, with a fishing fee adequate to meet operating costs. It should not be used as a warmwater fish rearing station to produce catchable fish, as such a program is difficult, expensive, and not compatible with modern pond management.

- The **Richmond Hill** hatchery operations should be discontinued. Disease problems make bass rearing impractical, and both bass and bream are available at the nearby Millen National Hatchery. The ponds should be developed on a **management fee** basis if adequate demand exists.
- The **Bowen Mill** hatchery should be converted to a public fish management area if there is adequate demand and fees will support the operation. The condition of the ponds, the water supply, and the drainage problems are not conducive to efficient warmwater hatchery production.
- The **Steve Cocke** hatchery should be closed. The water supply is of poor quality and must be pumped at excessive cost. Rebuilding the ponds would be expensive and perhaps not practicable. Heavy liming and fertilization would be necessary to maintain production. The Warm Springs National Hatchery and the Cordele hatchery should meet reasonable demands. The condition of the soil at Steve Cocke prohibits development of large ponds needed for a public fishing area.
- The **Cordele** hatchery should be developed as a combination **production hatchery** and fish management area for warmwater species. Existing ponds are adequate to care for all needs **if properly reconditioned** and remodeled.

Recreational Areas. The development of recreational areas at Lake Burton, High Falls, McDuffie, and similar locations is a desirable State activity. These are not, however, suitable activities for the staff of the Game and Fish Department, which has not been trained in the development of such sites nor in their management. Already inadequate numbers of employees should not be expected to assume responsibilities which demand different talents and make extra time demands. The State Parks Department is presumably staffed to do the engineering and development planning, to oversee the actual development of these areas, and to maintain the grounds once developed. In any case, these are responsibilities assigned to that agency. In certain instances, it may be possible that a national government agency (such as the Forest Service) would be more appropriate for these responsibilities because of nearby facilities.

Recommendation No. 4

It is recommended that the Game and Fish Commission work out cooperative agreements with the Parks Department for that Department to develop and operate the recreational area facilities for camping, hiking, and similar outdoor recreational activities which fall within the Parks Department's responsibilities. Similarly, the Game and Fish Commission and the Parks Department should agree on the Game and Fish Department having responsibility and authority to develop and manage fishing in State Park lakes.

Multiple-use of State facilities should be encouraged where practicable. But the development and operation of the necessary facilities should be handled by the agency charged with responsibility for the particular activities for which the facility is intended.

Staffing Shifts. As a result of implementing the preceding proposals for shifts in program activities, the Department will need to make shifts in its staffing patterns. It no longer will need so many hatchery superintendents and assistant superintendents. It will need management area supervisors and labor to handle public fishing and fee collections and maintenance.

Recommendation No. 5

The Department should reduce the number of hatchery superintendents (6) and assistant superintendents (9) to two of each. It should increase the number of fish management area superintendents from one to five to provide supervision of development and maintenance of public fishing for trout at Lake Burton and for other fishing at McDuffie, Richmond Hill, Bowen Mill, and Cordele. One or more day laborers will be needed at each area.

Other Program Suggestions

In a number of program activities the Department has made much progress. Many of its activities are based upon carefully developed research results. In a few instances, however, special comments are appropriate as guidelines for further work by the Department.

Trout Program. The present trout program should be reviewed and consideration given to future needs. The current annual stocking rate of about 529 catchable trout per mile of stream is comparable with most trout states. The fishing quality as determined by creel census of about one trout per hour on managed areas is at least twice the average for general trout fishing in other states, and the quality outside of managed areas is comparable to this average of 0.5 trout per hour. Hatchery production can be made more efficient than at present, **but the output of catchable trout should not be increased** unless a method is developed for making those who benefit by such stocking pay for the cost. (This would be achieved, of course if the special trout stamp recommended in Chapter IV is enacted into law.)

The Commission should formalize its approval and publicize the present distribution policy, under which it is specified which shall go into management area streams and which into unmanaged streams.

The Commission should continue and possibly expand the program of managed trout streams. On the larger, naturally productive trout streams, the Commission should consider imposing high size limits with restriction to artificial lures in order to increase the breeding population and the fishing quality. A "catch and release" stream, suggested by the Department staff, should be helpful in demonstrating the type of fishing that can be enjoyed throughout the year under the minimum kill regulations. Stream improvement work should be expanded, but on a watershed basis in which all habitat deficiencies are considered and corrected as feasible. The present Commission regulation forbidding night fishing for trout should be relaxed or rescinded on streams containing large brown trout which are usually difficult to take during daylight hours.

Reservoir Program. The Department should continue its present excellent program of reservoir research to keep close track of current conditions and to evaluate proposed management procedures such as high size limits on bass and similar matters. The Commission should drop the charge for permits for "basket traps" in reservoirs where removal of rough fish should be encouraged.

Small Impoundment (Farm Pond) Program. The Georgia farm pond program serves a considerable portion of the State's anglers. According to a 1960 survey 77 per cent of Georgia's fishermen above age 12 do some fishing in "small man-made lakes", and almost half of all fishermen interviewed did most of their fishing in such lakes. Nevertheless, the pond program poses a number of problems because the Department can hardly hope to establish adequate controls to ensure proper use of hatchery production. The 40,000 ponds in use and the large number of requests for fry from pond owners make for a workload which any reasonable number of biologists cannot possibly handle properly.

Encouraging reliance upon national hatcheries would shift the production burden from the State and permit it to devote its money for better purposes, but would not solve other problems. It is possible that the best solution is to shift the propagation task, gradually, to privately-operated hatcheries. This should provide a self-policing situation which would encourage pond owners to make the best use of fry obtained and to control pond conditions for maximum benefit. So long as the present uncontrolled situation exists, these more prudent policies are of no concern to the pond owner.

If Georgia is to continue to stock private farm ponds from state hatcheries, certain control procedures should be established, and strictly adhered to.

Recommendation No. 6

It is recommended that proper controls be established for the stocking of farm ponds if the Department is to continue to provide fry at no cost.

All applications for fry should be checked on the grounds (at the pond) to determine that:

- The pond area has been correctly stated.
- If the pond is an old one, it has been properly drained and all fish eliminated.
- The pond has not already been stocked from another source.
- The application has not also been filed with a national or other state hatchery.
- The pond owner and tenants are duly licensed to fish.
- If the pond is to be operated on a fee basis, the owner has paid the proposed (see Recommendation No. 8) commercial pond license fee.

The Department should discontinue the use of privately-owned farm ponds for its research programs and confine research to controlled ponds where desired study conditions can be established and maintained. With the expansion of the management areas, studies can be conducted at McDuffie, Cordele, Bowen Mill, and other sites.

Large River Program. The Department staff has proposed development of an access program for fishermen and boaters on the larger rivers of the State. This proposal deserves early consideration. Acquisition and development of the access areas should be handled by the proposed Department engineer with such assistance as may be necessary from the regional fishery biologist and the ranger who normally works in the area. Agreements should be made with the appropriate county or municipality for maintenance of access routes and attendant facilities, which should be kept simple and inexpensive. Access rights should include wading and boat navigation for fishing purposes regardless of ownership of the banks above and below access points.

Fishing Areas. The Department should acquire and develop additional areas for public fishing, on a management basis, where ponds are available or can readily be built and there is good reason to believe that daily use fees can support the operation. Expansion of the program should be gradual and keyed to success on the programs and sites recommended in this report. Such areas should be especially helpful where pond fishing waters are not now available to the public.

Legislative Proposals

A few improvements can be effected only after favorable legislative action. The proposals relating to fishing fees generally have already been discussed in Chapter IV. Two additional license fees were proposed in the discussion of farm ponds:

Recommendation No. 7

It is recommended that if the Department continues to distribute fish without cost, it should restrict distribution to owners who hold fishing licenses and whose tenants also are licensed.

Recommendation No. 8

It is recommended that where fish are furnished without cost to a pond owner who charges a fee for public fishing, the owner be licensed to operate a commercial fish pond, and that he pay a fee of $25.00 for five acres or less of pond plus $10.00 for each additional five acres or fractional part thereof.

Records of fishing operations at the commercial ponds also should be required so that the Department can evaluate the extent to which the pond meets public needs. Management advice for such ponds probably should be provided at no additional cost.

Still another proposal which requires legislation action but which is of great importance to fishery management is discussed in some detail in Chapter X. As already noted, water pollution can undo much fishery management work. Improved coordination with the Health Department and improved legislation are essential. Much good fishing water has been lost or damaged by domestic and industrial pollution, and more is threatened daily.

Miscellaneous Proposals

The Department should increase its cooperation with the Department of Education to provide information to school pupils on fishing (and game). "Georgia Fish and Fishing" is an excellent example of past efforts of this type.

The Department should continue and improve its cooperation with the U. S. Fish and Wildlife Service, U. S. Forest Service, U. S. Soil Conservation Service, and U. S. Army Engineers to insure fuller consideration of fisheries in the work of these groups. It also should expand its cooperation with the University of Georgia and increase its contribution to the minimum of $10,000 requested by the Cooperative Fisheries Unit. When budget allowances permit, the Department also should establish fellowships on marine fish problems and other basic research tasks to be conducted by units of the University.

Through cooperation with the U. S. Soil Conservation Service, the State Soil Conservation Districts, sportsmen clubs, garden clubs, and civic agencies it should encourage better soil protection to reduce erosion and roiling of streams and impoundments.

SUMMATION

Most of the problems in fishery management are related to problems of the Department as a whole: organization, finances, etc. However, there are some program problems which should be corrected.

There is a need to adjust staffing and compensation to provide more biologists for fish management work. More assistance also should be given to the Cooperative Fisheries Unit at the University of Georgia. Trout propagation should be shifted progressively to a refurbished hatchery at Summerville with Burton changed to a holding station and experimental headquarters status. A number of warmwater hatcheries should be converted to management areas for public fishing, but Cordele should be reconditioned for public fishing and for extensive propagation.

The Game and Fish Department should agree with the Parks Department to confine its efforts to fish and wildlife work and turn over to Parks the operating responsibility for its camping, hiking, and non-wildlife recreational activities.

The Farm Pond program should be adjusted or brought under control to minimize duplication, wasted stocking, and other wasteful actions. Pond owners and tenants eligible to use the ponds should be required to hold fishing licenses, and ponds operated on a commercial basis should be made subject to a special license.

Management can be improved by adoption of a number of small improvements, a large percentage of which the Department staff has been working on and wishes to see adopted.

VI. GEORGIA'S MARINE FISHERY RESOURCES

The distance from Savannah to St. Marys, the two extreme points on Georgia's coast, is about 115 miles; but the total coastline has been estimated at 1,000 miles. It is characterized by marshes, estuarine waters, and barrier islands. The estuarine complex of marshes and water area totals at least 520,000 acres, an area more than half that of Rhode Island and a larger estuarine area than that of any other State.

COASTAL PHYSICAL FEATURES

The marshes average about five miles in width and are intersected by a vast network of sounds, tidal rivers, creeks, sloughs, and back waters which are flushed twice daily by seven to nine foot tides. The area of salt and brackish marsh has been estimated at approximately 350,000 acres, exclusive of hammocks and waters. The marshes are flat, occasionally interrupted by small hammocks, with cord grass being the dominant vegetation. Much of the marsh land is inundated briefly during most tide cycles, and all is flooded by storm and equinoctial tides.

The water area is estimated at 170,000 acres. The water depths in the estuaries are generally less than 30 feet. The water is quite salty, with salinities usually above 20 ppt except in the vicinity of the larger rivers. Tidal activity tends to keep the water unstratified and extremely turbid.

The barrier islands are ancient sand dunes, usually with dense forest cover of live oak and pines. Pastures are still maintained on a few of the islands; but several islands adjacent to Brunswick and Savannah are being developed for residential, recreational, and commercial use.

Topography of the coastal mainland is flat, with slight rises to mark the location of ancient sand dunes. Dominant forest cover is pine with some oak. Cypress swamps may occupy flood plains above the salt line.

The Continental Shelf off Georgia slopes gently so that five-fathom water is generally found about seven miles offshore and ten-fathom water is approximately 25 miles offshore. The edge of the Shelf lies between 60 and 80 miles off the coast. The Shelf is generally flat. Some mud and clay occur within the five-fathom line with hard sand and shell occurring as the water deepens.

Coral, limestone reefs, ridges and seamounts occur toward the outer extremity of the Shelf.

CULTURAL AND ECONOMIC DEVELOPMENTS

Early settlers in the coastal area found rich soils, magnificant stands of yellow pine and live oak, and waters teeming with fish and shellfish. They developed profitable enterprises in shipbuilding, commerce, and commercial fishing, with activities centered in Brunswick and Savannah. Their plantations on the barrier islands and river fronts flourished from cotton and rice crops until the Civil War.

Although the economy of the area today is greatly changed, the terrain and abundant resources have continued to have great effect on its development. Much of the outer coastal plain remains in large tracts, under single ownership. Forest products, now mostly pulpwood, are the most important land crop. Farms now produce cattle and fresh vegetables primarily.

Commercial fishing continues as an important coastal enterprise, with the principal fisheries now being shrimp and blue crabs. Except for shad and catfish, most finfish are taken incidental to shrimp operations and are relatively unimportant. The principal commercial fishing ports are at Savannah (Thunderbolt), Brunswick, Darien, and St. Marys. Smaller landings are scattered along the creeks and rivers along the coast.

Savannah and Brunswick remain the principal urban centers. Both are deepwater ports, and in recent years both have developed diversified industrial complexes which are continuing to

expand. Tourism is becoming much more important to the regional economy. Motels, camping sites, golf courses, and related enterprises are being developed or expanded. Hunting and sport fishing have contributed to the coastal region's attractions to tourists, and modest facilities are being developed at major ports and shrimp landings. A few fishing camps, boat landings, and launching sites are scattered along the coast; but as yet most have generally limited facilities.

Publicly-owned recreational areas along the coast also have attracted tourists. There are four National Wildlife Refuges (14,357 acres), one State-operated wildlife management area (20,000 acres), one National Monument (94 acres), three State parks (14,082 acres), and about five miles of additional beach front on Sea Island and St. Simons Island, much of which is not accessible to the public because of adjacent private developments.

MARINE FISHERY RESOURCES

The authors of a 1961 study concluded that Georgia's estuaries ". . . are among the most productive natural ecosystems in the World." Georgia is also blessed with an exceptional variety of desirable fish and shellfish; but, with the exception of shrimp and blue crabs, Georgia's commercial fisheries potential remains essentially untapped. A 1959 study concluded that for sport fishing, "Georgia is probably **the most under-fished area** along the Atlantic coast of the United States."

Relatively little is known about Georgia's coastal and estuarine finfishes. The role of the estuaries as spawning and nursery areas for the more important fauna has not been adequately determined. Information on the distribution, movement, standing crop, relative abundance and harvest of even the more important species is insufficient to develop a sound management program.

Although more basic information is needed, considerable data are available on the shell fisheries and can serve as the basis for initiating sound management programs.

Sport Fishery

Brunswick and Savannah are the main centers for sport fishing. Charter and party boats, usually operated by commercial fishermen during their slack periods, are available. The estuaries provide the most productive and most accessible fishing, and they can be fished either from small boats or selected shore sites. Surf fishing is relatively light, though reported to be good off sand bars and at the mouths of inlets. Boat fishing in the coastal waters, still generally light, is developing more followers each year. So far few fishermen venture out for game fish available near the Gulf Stream because of distance and expense.

The most popular sport fishes are the spotted sea trout and the channel bass, which are most frequently taken in the sounds, rivers, and inlets. Other desirable coastal and estuarine species include flounder, sheepshead, cobia, croaker, king mackerel, Spanish mackerel, bonito, bluefish, tarpon, black drum, grouper, pompano, whiting, and sea bass. The big game species such as marlin, tunas, and sailfish occur further off shore. Especially in the Ogeechee River a sport fishery for shad is becoming popular, and there is considerable interest developing in angling for striped bass.

Despite this obviously excellent sport fishing potential, Georgia does not enjoy a reputation comparable to its neighboring states. Only 5.8 per cent of Georgia's licensed fishermen fished for marine fishes in Georgia in 1960, a ratio considerably below that of other coastal states. However, a survey of licensed fishermen would not include those who fish only in salt waters and not now required to hold a fishing license; so the survey may tend to understate the amount of interest by Georgia sportsment in coastal sport fishing.

There are probably several reasons for the relatively low status of Georgia's coastal waters for sport fishing. Until recently there was little coastal interest in attracting tourists. The un-

usually restrictive riparian and trespass laws make certain water areas off limits to sports fishermen. For many Georgians it is at least as convenient to travel to Florida or South Carolina as to the Georgia coast, and these competitors have long made tourism big business. Many Georgian anglers are within easy driving distance to good freshwater fishing.

Commercial Fishery

Georgia's most important commercial fishery is shrimp, and Georgia leads all other Atlantic coastal states in its production. Commercial fishermen take shrimp within six or seven miles of the coast and in several major sounds opened at the option of the counties.

Commercial interests in recent years have developed the blue crab fishery. It is rapidly becoming one of Georgia's most important fisheries. Although production has been around 12 million pounds in recent years, the harvest potential is considerably greater. At present this is largely a crab pot operation in the major sounds and channels.

There are a number of other marine resources which appear to have excellent commercial potential.

- The hard clam is apparently abundant throughout the inshore areas. Some out-of-state interest in developing a commercial fishery has been reported. However, positive action is alleged to have been deterred by the antiquated riparian and trespass laws, existing pollution regulations, and the possibility of unfavorable State regulations.
- Calico scallop beds of significant commercial potential lie offshore.
- Shrimp production could be increased by opening several large sounds now closed by county action, and under-exploited shrimp populations are known to exist offshore. The royal red shrimp, now providing limited fishery to North Florida fisherman, appears to have potential for Georgia fishermen.
- The present harvest apparently hardly touches the available supply of such species as bluefish, croaker, drum, flounders, groupers, king mackerel, Spanish mackerel, king whiting, sea bass, and sea trout.
- There is evidence of good concentrations of bottom fishes in the coastal and offshore waters. Such species as snappers, groupers, and porgies appear to be in excellent supply. There are indications of a good potential for industrial fishery for butterfish, round herring, and scads; mullet are abundant and literally untouched; menhaden are reported as plentiful.
- The diamondback terrapin has now increased sufficiently to warrant harvesting. Potential for offshore pelagic species, such as the tunas, is not known.

Many of these resources could be exploited easily by shrimp fishermen with a minimum of investment and equipment modification. The diversification would greatly strengthen the industry and make it less susceptible to serious economic losses from import competition, year-class failures, and other problems such as catastophic environmental changes. Rising production and operating costs could be distributed more evenly also with such diversification.

Intensive management programs on selected species could add to the commercial potential. Georgia marshes appear to offer a good opportunity for various aquacultural practices. Proper cultivation of existing oyster reefs and a program to re-establish old grounds should greatly increase oyster production. A dependable supply of soft crabs should find a ready market. Fish farming operations for hard clams, oysters, shrimp, pompano, and mullet are certain to become economically feasible in the future and could easily be developed for Georgia conditions.

Perhaps the greatest single fishery opportunity relates to the oyster industry. Georgia's once valuable oyster fishery has declined drastically since the peak production of 8 million pounds

in 1909. In 1962 the harvest was 147,000 pounds. This decline is largely attributable to poor management practices. Many productive reefs are closed to commercial harvest because of pollution controls which knowledgeable persons allege are based on unrealistic standards.

Recent and projected commercial fishery statistics developed by the United States Study Commission are shown in Table I. The projected figures for oysters and finfishes are based on the existing fishery and do not reflect what could be produced under intensified management. For the oyster fishery the chart on page 8 in Chapter X on water pollution is quite revealing. (The economic loss of approximately $6 million described in Chapter X is an example of the cost of poor fishery management.)

TABLE I

Recent and Projected Commercial Fishery Statistics for Georgia
(Thousands of Pounds)

Fish	Average 1955-1959	1962**	1975*	2000*
Shrimp	9,783	8,610	10,259	11,348
Crabs	12,983	12,304	15,391	20,837
Oysters	240	147	373	980
Selected finfishes	880	—	1,092	1,465
Other fishes	265	—	4,235	16,500
Industrial fishes	34,000	—	46,000	74,000

*Adapted from SERB Commission Reports.

Taken from **Georgia Landings for 1962.

FUTURE DEVELOPMENT ALONG THE GEORGIA COAST

Because of geography, old customs and traditions, and large tract ownership much of the Georgia coast has remained relatively unchanged. However, State and local promotion programs designed to attract industry, tourists, and retired folk have wrought many changes in some areas; and more can be expected, especially around Savannah and Brunswick. Development of the marshes and barrier islands adjacent to these two urban centers is well underway. Lagoon-type home developments, which can utilize tremendous estuarine areas, appear to be on the verge of accelerated growth.

The marshes and barrier islands of the central coast appear to be in less danger of immediate development because adjacent mainland areas are controlled by pulpwood interests and a few farmers who are likely to resist any extensive development. However, such isolated areas are quite attractive to certain types of industries whose activities could be extremely damaging to the estuaries. Furthermore, there is likely to be accelerated development along route 95 when it is completed. Marsh and waterfront areas bisected by this superhighway are likely areas for industrialization and commercial development.

The full recreational potential of this coastal area is only now being recognized; it presents a strong counter argument against development of at least some areas. Cumberland Island is under discussion as a possible National Sea Shore Area. There is interest in preserving more marsh land and barrier islands in their natural state. Marinas, boatels, boat launching facilities, motels, camping sites, and other recreational facilities are being developed or expanded — they may represent a better use for much of the area than would industry.

To summarize, much of Georgia's coast is certain to experience some type of development in the next decade or two. If developed without adequate planning and control, natural resources of great potential benefit could be destroyed. Undesirable environmental changes would destroy valuable natural habitat and create undesirable water conditions, which would adversely affect the fishery and recreational potential over large sections of the estuaries. The conditions along the Savannah River, now considered almost hopeless by some state officials, could develop in other areas with equally harmful results. Hazards also can come from long distances upstream, from hydropower plants, municipalities, and other sources of introduction of pollution and other undesirable cultural influences on the estuaries. Once such developments are underway, attempts to introduce controls become increasingly difficult.

INSTITUTIONS AND AGENCIES WITH RESPONSIBILITIES FOR GEORGIA'S MARINE RESOURCES

Numerous state and federal agencies have responsibilities in connection with Georgia's marine resources. Principal Georgia units are the Game and Fish Department, the Department of Public Health, and the University of Georgia. Principal federal agencies include the U. S. Fish and Wildlife Service and the U. S. Public Health Service. Other federal agencies are the Department of Defense and its Corps of Engineers, the National Park Service, the Department of Agriculture and especially its Soil Conservation Service, and the Bureau of Outdoor Recreation. The South East River Basin Commission, authorized by Congress in 1958, also has important responsibilities.

Georgia Agencies and Institutions

Georgia Game and Fish Department. The Game and Fish Department is responsible for the management and conservation of the State's fish and wildlife resources, including those of the coastal area. Enabling legislation provides for a Coastal Fishery Division which has been operated intermittently and in various ways since its establishment. Currently, it is a geographical enforcement district. The "division", and the Department as a whole, has no marine biologist and no marine laboratory to study problems of its marine resources and to develop program plans to utilize this resource wisely. There were attempts to improve this situation in 1953 when a biologist and a chemist were employed for a brief period, and again in 1961 when a marine project, financed by "D-J" funds, included three survey questions related to marine matters:

- Creel census and catch composition of marine sports fishermen.
- Survey of sport fishing facilities.
- Experimental installation of "fish drops."

The project is now inactive due to the recent resignation of its project leader.

The coastal law enforcement program apparently has been fairly competently administered; and good, personal relationships have been maintained with commercial and sports fishermen, governmental agencies, and industry. However, enforcement is generally agreed to be quite inadequate — a point readily attested to by all elements involved in the coastal program or affected by it.

The Georgia Department of Public Health. This agency has primary responsibility for control of water pollution, and its operations are discussed in the chapter on that subject. (See Chapter X)

University of Georgia. Georgia has some of the country's foremost estuarine ecologists on the staff of the Zoology Department of the University of Georgia and the University's Marine Laboratory on Sapelo Island. Much of the research has immediate application and also would be useful in the development of long-range plans for utilization of Georgia's estuaries. The University School of Forestry has a Wildlife Section with research capabilities in marsh ecology and waterfowl. The Cooperative Fishery Unit in the School, staffed by the Bureau of Sports Fisheries and Wildlife, is expected to devote some of its work to estuarine fishes.

Other State Agencies. The programs and activities of a number of other State agencies affect Georgia's marine resources. These include the Parks, Forestry, and Highway Departments, and such agencies as the Jekyl Island Authority. Local agencies also affect the program. Some control waterfront property suitable for development of sport fishery facilities. Others contribute to problems by pollution or to solutions by cooperation.

Agencies of the National Government

The U. S. Fish and Wildlife Service. Many of the programs of the U. S. Fish and Wildlife Service have direct effects on Georgia's marine resources. The Service operates four refuges on the Georgia coast; its Branch of River Basins makes studies of various water development programs and fish resources; its Bureau of Sports Fisheries and Wildlife operates a number of laboratories whose programs are important to Georgia; the Bureau of Commercial Fisheries also operates laboratories, including a Biological Laboratory at Brunswick which stresses taxonomy and life history studies of fishes. The Bureau's Exporatory Fishing Station at Brunswick has made 17 cruises which included the Georgia coast. Other stations of this Bureau also do work which may ultimately provide information of value to Georgia. Publications issued by the U. S. Fish and Wildlife Service, and its bureaus, are also of much value to state agencies, the commercial fishing industry, and other groups interested in the Georgia coastal area.

The U. S. Public Health Service. The U. S. Public Health Service also operates a laboratory of much interest to Georgia. Its Dauphin Island Gulf Coast Shellfish Sanitation Research Center is investigating and evaluating various methods for purifying oysters and clams taken from contaminated waters. The Service also is involved in studies of waterways along state boundaries or flowing from one state to another, including waterways which terminate in the coastal region.

Other Federal Agencies. A number of federal agencies have already been mentioned as affecting the coastal region through their operations. Particularly important among them is the U. S. South East River Basin Commission, authorized by Congress in 1958. Its published studies include a comprehensive plan for the conservation, utilization, and development of the land and water resources for the four major river basins which comprise Georgia's Atlantic Drainage Area.

PROBLEMS

In addition to the pollution problems (discussed in Chapter X), the Department's coastal operations suffer from a number of significant difficulties. First, the Department has completely failed to assume its responsibility for developing a management program for the marine fishery. Staffing is not adequate for law enforcement in the area, and there has been no consistent employment of marine biologists to study the numerous estuarine fish conditions which have crippled the commercial fishery and failed to meet the needs of sport fishermen.

Naturally with these inadequacies, there could not be a long-range plan under which the Department could determine the needs and then move to acquire any lands required to protect particular resources, or to develop specific fishery resources for sports and commercial groups. The Department has no adequate powers to prevent pollution. It has failed to assume the powers it has to open and close sounds, and has left this responsibility largely to the counties which generally have been even less equipped than the Department to make wise decisions.

Relationships between the Department and the sport and commercial fishery interests have been generally unsatisfactory for years, although most of the coastal groups have developed respect and friendly feelings toward the Department employees actually assigned to the coastal area.

PROPOSALS

Correction of existing problems requires implementation of proposals relating to organization, financing, long-range planning, management, additional powers in pollution control, and changes in the use of existing regulatory powers.

Organization and Staffing

Within the new plan for organization provision should be made for an adequate arrangement for planning and evaluation of the marine fishery program, for adequate marine fishery research, and for considerably better law enforcement in the coastal area. Within the Program Planning and Evaluation Division a unit for Marine Fishery Planning and Evaluation should be established. The specialist for this activity should be a competent biologist with an adequate background in research and in management of marine fisheries.

In addition, the Department should establish at Brunswick, preferably in existing facilities, a suitable laboratory, properly equipped for marine fishery research and analysis, and staffed with at least two competent marine biologists of the project leader level. One should work on shellfisheries and one on fin fisheries. They should have assistance from beginning biologists and technicians and stenographic services. Ultimately, the staff probably should be enlarged in order to service properly what should be a commercial and sports fishery of increasing financial importance. Salaries, of course, must be adequate to attract and hold competent, trained biologists.

Adequate numbers of law enforcement rangers, with special skills and experience, should be stationed in the coastal region to eliminate oyster thievery from closed areas and to provide adequate patrol of the estuarine waters to enforce laws and regulations adopted by the Commission as its long-range planning and policy regulations are developed and promulgated. Continuing study will be essential to set the proper staffing ratio, but the importance of the commercial potential justifies a considerable expansion in the ranger force.

Recommendation No. 1

It is recommended that a specialist for Marine Fishery Program Planning and Evaluation be included in the staff and given responsibility for developing program proposals and evaluating program results. A competent laboratory staff, with modern equipment, should be provided; and the ranger staff should be increased.

Financing

Proposals relating to license fees are included elsewhere in this report. The marine fishery program should be adequately financed, however, to permit intensive studies of marine problems and to provide adequate law enforcement and other sound management programs.

Recommendation No. 2

It is recommended that, in allocating the additional revenues anticipated from the increased license fees and from removal of license fee exemptions, the Department provide adequately for the marine laboratory and for better law enforcement in the coastal region. Any unwise economies at the expense of these programs will have serious effects on the economy of the coastal region and the entire State.

Long-range Planning

As a part of the over-all Statewide long-range plan for game and fish, considerable attention should be given to long-range planning for the marine fishery. The planning effort should be coordinated with that of other interested agencies and groups, including organizations of sports and commercial fishermen whose advice should be helpful. The plan should be designed to serve as a guide in determining which lands, if any, should be acquired, and when for conservation and development and management purposes; which fisheries should be developed and how for both sports and commercial purposes; what facilities should be provided and where; and which policies and regulations should be promulgated and enforced in order to encourage and protect the proper development of marine fisheries. The plan should include consideration of staffing needs by category of employees and the timing for adjustments. It should, of course, be dovetailed with other

aspects of the over-all plan so that financial and other considerations can be reasonably tailored to prospects.

Recommendation No. 3

It is recommended that as a part of the over-all game and fish long-range planning program, a long-range plan for the marine fishery be developed to guide the acquisition of lands and facilities, the adjustments of staffing, the successive emphases in program changes, and the orderly development and enforcement of policies to fit needs.

Marine Fishery Management

To provide orderly management of the marine fishery program, a number of activities must be initiated or increased as to emphasis. These activities must, of course, be tied in with the results of marine research and law enforcement if best results are to be obtained.

Specific management steps which should be taken include:

1 — Development of a comprehensive long-range land acquisition program and the orderly consummation of the program to fit coastal needs.

2 — Completion and implementation of the survey of access sites and of fishing facilities and areas which was begun in 1961.

3 — Departmental assumption of responsibility for collecting commercial fishery statistics in cooperation with the Bureau of Commercial Fisheries.

4 — Continuation and expansion of the sport fishing creel census which was initiated in 1961.

5 — Expansion of desirable habitat for fishes by creation of artificial reefs, locally called "fishdrops", after adequate research as to proper locations.

The re-establishment of oyster reefs would provide the best type of "fish drop" and should be pushed through adequate law enforcement as well as by improvement of conditions which now detract from the oyster fishery.

6 — Equipping of bridges, jetties, breakwaters, and similar facilities, whenever practical and safe, with walkways or other facilities for public fishing.

7 — Surveying the fishes of coastal and estuarine waters as promptly as possible.

8 — Development of a sound shellfish management program. (The U. S. Bureau of Commercial Fisheries will make available its Shellfish Advisory Service to assist in the development of such a program when the Department has provided the necessary staff to make proper use of the assistance.) An old map of Georgia estuaries published by the Navy shows the location of oyster beds and should be quite helpful in the development of the program.

9 — Cooperation with the U. S. Bureau of Commercial Fisheries and with the commercial fishing industry in exploratory fishing surveys in coastal and inshore waters.

Recommendation No. 4

It is recommended that the Department develop an orderly and properly planned management program for the coastal and estuarine fishery as promptly as possible.

Pollution Control Powers

As discussed in the chapter on water pollution (Chapter X), the Department should have adequate powers to protect fish and other marine resources from adverse effects of pollutants. Legislation should be enacted to give the Department power to fine offenders who destroy desirable aquatic resources through pollution, to obtain abatement injunctions, or to seek court-imposed penalties where other measures are not effective or the polluter is unwilling to accept Department action.

To provide information on which the Department could exercise its authority and responsibility to protect fish and other marine resources, it is suggested that a pollution staff be provided to consist of a pollution biologist, a chemist, and necessary support. All biologists and rangers in each of the districts of the State should be given special training to carry out routine inspections and to follow up on abatement programs, to record evidence, and to testify in court concerning evidence of pollution. The pollution unit also should be available to consult with municipal and industry representatives on proposed effluent treatment plans and pollution abatement programs to avoid unnecessary, wasteful, or ineffective expenditures, and to encourage installation of effective treatment facilities. This program would supplement the efforts and greatly help the Department of Public Health or other agencies charged with the general powers of pollution control to protect the public health.

Recommendation No. 5

(See Recommendation No. 12, Governor's Commission Report for a different recommendation.)

It is recommended that the Game and Fish Commission seek adequate powers to impose fines and obtain abatement injunctions against polluters adversely affecting fishery or to proceed in other court actions where necessary. It is also recommended that a pollution unit be established within the Department, staffed with a pollution biologist and a chemist.

Improved Exercise of Regulatory Powers

All marine fishery regulations, particularly those related to shrimp and oyster fishery, should be reviewed in the light of existing knowledge. For example, the "county option" system for regulating shrimp fishing in estuarine waters and the minimum size limit on shrimp cannot be supported biologically. The review should be made in cooperation with neighboring states and the Atlantic States Marine Fisheries Commission to insure reasonable uniformity.

Review of other policies also is in order. The capacity of Georgia's marine fishery resources to satisfy projected demands is limited not by the potential productivity of the habitat but by the manner in which the resources are managed, the extent to which the environment is kept suitable for desirable organisms, the type of facilities that can be provided, and the extent to which private initiative and investment can be fostered.

The main objective for the sport fishing program should be to provide recreational fishing opportunities to the people who live in the coastal and adjoining regions or who visit the area, and not to compete with freshwater fishing or the commercial marine fishery.

The commercial fishing industry is plagued by seasonal fluctuations, high costs, precarious market conditions, and a general lack of good conservation practices. The benefit to the State should justify every reasonable attempt to develop a more vigorous and diversified fishery. Concerted efforts should be made to stimulate cooperative programs with the industry, the University of Georgia, the U. S. Bureau of Commercial Fisheries, and all other groups which can help to establish new fisheries, develop better techniques, and determine appropriate policies for development and management of the fishery. Continued research in the basic aspects of estuarine ecology must be given all possible financial support by both the industry and the State, and the results of such research must be incorporated in State policies and programs as quickly as possible.

Recommendation No. 6

It is recommended that the Department undertake, in cooperation with all interested and informed groups, a review of present policies and regulations in order to establish a proper framework of policy and programs to encourage a suitable program of sports fishery and a diversified and economically better-based commercial fishery.

Riparian and Trespass Laws

The State's riparian and trespass laws are out of date. Some may, in fact, be unconstitutional. These should be given careful study and an attempt to eliminate those which conflict with the public interest. Such a review would appear necessary before any large scale acquisition program is undertaken.

Recommendation No. 7

It is recommended that the present laws which close certain estuarine waters to sports fishermen, and to commercial fishermen for shellfish, be reviewed to determine whether better methods are not available to achieve the protective purposes intended so that these waters can be opened to the public.

SUMMATION

Throughout this review an attempt has been made to emphasize the increasing socio-economic problems inherent in resource planning and development. Although multiple use of Georgia's estuaries and coastal areas is basically a sound philosophy, it must be recognized that there are situations where modification of estuarine areas for industrial, residential, and even recreational development is incompatible with the conservation of fish and wildlife resources. It is only through study and careful planning, undertaken cooperatively by all agencies concerned, that some degree of assurance can be given for the future of our coastal fishery resources here and elsewhere throughout the country. There is still time to act in Georgia, but there is much work to be done.

To get on with the work will require better organization and staffing, better financing, better and longer-range planning, adequate marine research, far better resource management, pollution control powers, modernization of regulatory policies, and revamping of riparian and trespass laws.

VII. GEORGIA'S GAME MANAGEMENT PROGRAM

At the turn of the century, with an ever-growing human population and the rapid development of agriculture and industry, men of vision began to see that unnatural forces were crowding in upon native wildlife throughout the nation. Up to that time little thought had been given to the ever-narrowing of wildlife habitats and a corresponding shortage of food supplies for wildlife.

The utilization of woods products and the clearing of forest lands to make room for the expansion of agriculture depleted areas suitable for woods game. It became apparent to observers that eventually there would be few suitable areas for deer, turkeys, and many other useful forms of wildlife.

Hunters became concerned, meetings were held, and problems were discussed. Out of these discussions arose questions of how to conserve, protect and maintain the game supply, and if possible increase it.

In more recent years thoughtful, earnest men in county, state, and federal governments have taken notice of the neglect of our renewable natural resources as a whole, and of game specifically. Intelligent men began to take stock of these highly beneficial resources.

Extensive programs of game management and development have gradually evolved among the various states. Game farms were developed early; game purchases were made to stock depleted areas; management areas were created and a period of game propagation and development was allowed before opening them to public hunting; development of feeding plans brought about the planting of food strips and the furnishing of seed, plants, and sometimes fertilizer to companies and individuals who would plant their rights-of-way or other portions of their lands with game foods, especially for deer, turkeys, and quail.

Cooperative programs have been developed in some states for joint efforts by soil conservation groups, wildlife agencies, and landowners to use modern, scientific principles of soil and water conservation in game and fish production in order to contribute materially to the health, wealth, and happiness of the people of the state.

Beginning in 1935, a few of the more progressive states, with financial aid from the National Government, established cooperative wildlife research units in their land grant colleges and provided courses of study where interested young men could obtain biological and game management training. These courses of study have been widely accepted by conservationists throughout the country. Today more than twenty land grant colleges are receiving grants from the national government, and numerous colleges and universities (one of which is the University of Georgia) are giving good, scientific courses in wildlife research and management.

Georgia, too, began to take stock of the situation. As noted in an earlier chapter, the General Assembly created a department charged with wildlife conservation and development. Through the years this department has undertaken numerous game development and management programs to make better utilization of Georgia's natural resources.

GEORGIA'S POTENTIAL

The terrain, climate, waters, and vegetative growth in the State of Georgia are all very favorable for the maintenance of an abundant supply of those species of game indigenous to the region. The potentialities compare most favorably to all of that vast expanse of territory which extends from southeast Texas to the tidewaters of Virginia.

Georgia's elevation rises from sea level in the area embracing Savannah and Brunswick to the peaks of north Georgia, some of which lift their heads to a height of forty-seven hundred feet.

The State is blessed with a seacoast of one hundred miles abutting on six counties; with numerous rivers and large impoundments; with innumerable small streams and farm ponds; with

flat, rolling, and mountainous terrain with varieties of timber and grass lands — all conducive to the well-being and development of an abundance of game, furbearing animals, fish for both sport and commerce, and a wide variety of recreational opportunities.

The potentialities for the utilization of public and private lands and waters by those who would go afield with gun and dog, or rod and reel, or with watercraft of all kinds, are almost limitless.

GEORGIA'S GAME OPERATIONS TODAY

The Game and Fish Commission and Department employees have accomplished much to enhance hunting and fishing opportunities in Georgia. Much more however, remains to be done. Nationwide game management programs today include a number of separate distinct activities: research, game farm operations, operation of management areas and public hunting areas, negotiation for additional facilities, and overall coordination of the game program. The Georgia program suffers from inadequacies in several of these.

Staffing Game Management

The game management program is the responsibility of the Game Management Division and of the Chief of the division who reports directly to the Department Director. All headquarters and field activities related to game research, development, and management are under the chief's supervision directly or indirectly. In one particular area all field activities (including law enforcement and fish management activities) are under a District Chief (the Management District), but in all other districts game biologists and other game personnel report directly to the project director for the individual project who, in turn, reports directly to the Chief or the Assistant Chief of the Game Management Division.

Currently the staff for game management work for the entire state consists of the Chief, Assistant Chief, ten biologists, one wildlife ranger (plus 14 other rangers on present assignment to management work), two equipment operators, two maintenance laborers, one trapper, a game management farm operator, and a gamekeeper. These employees include thirteen young men with technical training, all of whom seem to be well qualified to do a good job in game management. These employees occasionally have some assistance from rangers on construction projects, but on the whole they operate with limited assistance at best except during managed hunts when rangers do provide the registry and control services required.

Game Farms

The best known, and without a doubt the most widely loved species of game throughout the Southland, is the native Bobwhite Quail. All of the states in the quail belt from Maryland across the Mississippi to Oklahoma and south to the Gulf of Mexico have made concerted efforts to increase the quail supply. Many of the states have spent considerable sums in buying quail wherever they could be found and planting them in suitable areas. States have spent thousands of dollars annually to import the smaller Mexican Bobwhite in an attempt to supplement the native stock.

In addition, many states have established game farms, including Maryland, Virginia, Georgia, Alabama, Tennessee, Texas, and other states. Most of these states learned, after spending all the money that they could "rake and scrape," that they were not increasing the quail population with either foreign purchases or domestic propagation.

In these purchase and hatchery programs practically all of the birds have been released on privately-owned lands because there were not suitable public lands on which to release them.

The Georgia Department now operates one game farm which it uses to raise turkeys, quail, and jungle fowl. The turkeys and quail are raised primarily to meet requests for these particular birds; the jungle fowl is being raised on an experimental basis in an effort to find a good game bird to

provide shooting on lands which formerly were farms and plantations but now are solid stands of young timber and therefore no longer suitable habitat for quail. The jungle fowl seems to have good possibilities for this purpose.

In general Georgia releases its pen-raised birds on private lands also. Recently, however, 50 pen-raised turkeys were released on a State Park, where no hunting is allowed, in an effort to observe tneir survival rate and to obtain further knowledge concerning the value of these birds for restocking purposes. Biologists within the Department have determined that generally pen-raised turkeys and quail have been unable to establish themselves, furnishing some additional hunting for a season but not providing stock for the future.

Operating costs of the game farm are not computed for each species. Total costs for the farm, however, run approximately $18,000 per year. Last year the farm produced 780 turkeys, 300 quail, and 85 jungle fowl, or a total of 1,165 birds at approximately $15.45 per bird raised.

Most states have discontinued the operation of game farms for quail and turkeys because they found better results could be obtained for their money by using available dollars through modern management programs to benefit the wild stock, through programs of improving habitat and management, and then trapping and transferring wild birds to areas temporarily deficient in breeding stock.

Hunting Grounds for the Public

The Georgia Department has arranged for nineteen wildlife management areas in Georgia, comprising nearly one-half million acres, which are presently open to public hunting or soon will be if adequately financed. Even so, this means only a fraction of over two acres per licensed hunter.

Suitable land for farm game species are on the decrease in Georgia just as they are throughout the Pine Belt from Virginia to Texas. Hundreds of thousands of acres of formerly cultivated fields are being converted to forest land each year. While for some years there will be large acreages which will produce quail and other farm game to be harvested in front of the gun, Georgia and its neighboring states find that the removal of suitable woodland cover and game food areas exerts continuing pressure on diminishing numbers of deer, turkeys, and other important forest game.

In an effort to offset this loss of lands and of game production areas, Georgia's department (like departments in other states) has developed several approaches. It has developed management areas where hunting is restricted except during periods of managed hunts. These areas provide periods of game development and then through controlled harvests prevent the excessive destruction of game or the development of an over-supply which could cause losses from starvation where game populations exceed the food supply.

The Department has also attempted to obtain privately-owned lands for public hunting by non-fee leasing arrangements with the landowners. Since Georgia has extensive tracts under ownership of pulp producers, this is potentially a very beneficial program to both the State and the owners provided certain handicaps can be overcome. The Department has not yet attempted programs which have been quite successful in several states: farm-game programs in which extensive acreages under multiple ownership are opened to public hunting through State protection against vandalism and abuse; extensive purchase of lands for public hunting; or opening of smaller tracts by providing safety zones around buildings and occupied areas.

Management Areas. As noted the Department now operates 19 management areas. Eight of these are on the Chattahoochee National Forest. These areas which are under the supervision of the Department have been obtained through cooperative agreement with the U. S. Forest Service. However, there are large stretches of the Forest which are not included in these fine management areas.

Other management areas are available in the Piedmont region, and several lie in the coastal plains region of southeast Georgia. A small area (Seminole Game Management area) also is provided in the extreme southwest tip of the State, and another is provided in the Clark Hill reservoir area. State forests, as well as national forests, are in use for the management areas. The vast majority of the managed areas are, however, in national forests.

These management areas have served a splendid purpose. The principal forms of wildlife that gave impetus to the successful management of the areas were deer and wild turkeys, with less emphasis on small game, such as ruffed grouse, squirrels, rabbits, raccoons, and other furbearers. Deer apparently have received more attention on these areas than any other species.

Leased Private Lands. While the Department has been able to obtain public access to a number of tracts of timber land by non-fee leasing arrangements with owners, this program has not produced the public hunting which might be expected in a State so rich in timber lands. Several problems account for this difficulty. The Department has been unable to provide adequate patrol by law enforcement personnel. There are no present statutes which limit the liability of landowners to protect them from unreasonable damage suits from persons using the lands, who should recognize that they are rough, undeveloped lands which might be expected to present some hazards. Nor has the Department been able to develop the lands under lease or provide adequate management for such lands. Responsible officials in the Department are convinced from many efforts to obtain leases that large numbers of private landowners, both large and small, deny hunters and fishermen access to their property for fear that in the case of an accident the landowners may be held liable.

Farm-Game Programs. The leasing of sizeable blocks of private farm or plantation lands to provide public hunting (or fishing) where species such as quail, rabbits, squirrels, and other species usually abound is far more complex because of the number of landowners involved. Georgia essentially has no present program of this type.

Farm-game leasing programs can be achieved, however. A number of states have demonstrated that it can be done. Notable among them are such states as Pennsylvania, New York, and others thickly populated.

Pennsylvania's Cooperative Farm-Game Program, launched a quarter of a century ago, boasts over one million acres of farm lands open to many thousands of small game hunters each year — without controls or fees other than the regular hunting license and reasonable observation of protective laws.

Generally such programs involve a plan of five year leasing, without fee, with the state providing protection to property during the hunting season, protection from indiscriminate shooting by safety zone inhibitions, and limited liability protection for the owners. Rangers policing such areas provide protection from property damage and indiscriminate shooting. Statutes provide reasonable protection from unreasonable suits.

As noted earlier, Georgia has no farm-game program. The public hunting program of Georgia is of course handicapped by this situation.

PROBLEMS IN THE GEORGIA GAME PROGRAM

The Georgia Game Management program suffers from a number of handicaps. The Department has not had a sufficient number of trained biologists to meet the needs of 252,000 licensed hunters nor to provide adequate hunting to encourage additional Georgians to take advantage of this fine sport. With the exception of the complete omission of any program of marine fish research and management, it can be said in truth, without fear of contradiction, that the Game Program has been the most neglected and most underfinanced program in the Game and Fish Department. While the Department has accomplished much, it has lacked adequate financial support to employ an adequate number of biologists and other qualified personnel, to acquire the essential tools and equipment for game management work, and to purchase or lease the land for game management and public hunting which makes up the basic resource of the program.

The Department has been unable to arrange for lands because there is no means of reducing the risks of liability for landowners willing to cooperate by making their lands available for public hunting (or fishing). It has not had the advantage of a safety zone law. It has not had enough wildlife

rangers to protect landowners from property damage by careless or malicious hunters, so owners have been fearful of opening their properties to the thousands of honest and careful hunters who need access to suitable lands. The Department has had only limited food planting programs.

The Department has not had adequate state dollars to use the federal dollars available to it (from 1958 through 1962 $388,000 of federal aid dollars reverted for use in other states which could have been obtained for Georgia's use by investment of $129,000 of state dollars). More importantly, it has lost the benefits of the research and development and restoration projects which could have been financed with the $530,000 which would have been available under better programming of the state's dollars to capture the federal grants.

The Department has continued to operate a game farm in an uneconomical, if not wasteful, manner with dollars which might better have been devoted to other aspects of its management program. It has failed to develop long-range plans and annual objectives to guide the work that has been done to assure logical long-range benefits to the hunter.

PROPOSALS FOR IMPROVEMENT OF THE GEORGIA GAME PROGRAM

The General Assembly by statute has provided adequate powers to the Game and Fish Commission to overcome most of the problems it now faces in developing and operating an adequate game management program. Elsewhere in this report, proposals have been developed for meeting the financial problems which have been the prime stumbling block to solution of problems of staffing, research, restoration, development, land acquisition, food planting, and similar programs. If the adjustments in license fees proposed in Chapter 4 are made by the General Assembly, the Game and Fish Commission for the first time will be able to move decisively toward solving these problems. A number of specific proposals should be implemented as the Commission undertakes the solutions.

There are many reasons for optimism that solutions can be achieved. There is a willingness on the part of the Commission and the Department to undertake an expanded program. Game biologists understand the nature of the existing needs and are familiar with the concepts proposed here. Hunters are anxious to cooperate to bring about solutions, to pay the additional hunting fees to provide the support for the programs, provided the Department supplies the leadership it is prepared to proffer.

There are good reasons to believe that landowners, especially large timber plantation owners, will willingly cooperate in opening their lands to public hunting (and fishing) if given the protection customarily provided in other states. The particular protections needed do not appear likely to generate controversy, so favorable action by the General Assembly seems a reasonable expectation. The problem remaining, then, is to spell out the solutions and proceed with their implementation.

Personnel Requirements

The Game Management program suffers from lack of several types of employees: biologists, land protectors (rangers), land development planning and supervision (engineering services), and support personnel such as stenographers. The Department now has qualified biologists, but not enough of them. It now has qualified rangers, but not enough of them. It does NOT have engineering employees. The Department has the further problem that neither the biologists nor the rangers are paid salaries which are competitive with the interstate market for biologists and the intrastate market for persons of the education and the enforcement and communications skills required of rangers.

Need for Biologists

The Department now has only eleven trained biologists engaged in game management programs. It greatly needs a minimum of six additional game biologists now, and within five years it probably will need at least six additional trained game biologists — or a total of 17 and in five years approximately 23.

Biologists are needed to provide specialization in three game development programs: deer, turkeys, and quail. For each of these programs the Department should provide two specialists, one to operate in North Georgia and one to specialize in the southern half of the State. Competent game biologists are needed to fill the regional supervisory position for game management in each of the four regions. Biologists are needed for regional research projects aside from the three major game programs previously mentioned, including programs for jungle fowl, waterfowl, furbearing animals, and other game. In addition to these biologists there is, of course, the need for a small planning staff in headquarters to develop program plans and to evaluate program results as discussed in the chapter on Department organization.

Stenographic support obviously is needed if the headquarters and the general supervisory biologists are to make best use of their time. In addition, field biologists must have access through law enforcement offices or regional game supervisory offices to stenographic assistance to plan projects, to prepare evaluative materials, and to write up project reports. The biologists must also have skilled and unskilled labor support for various phases of research and especially for developmental projects. Food plantings, land clearing or road grading (where these services are not contracted with the Highway Department or otherwise), construction of facilities used in research projects or for management area control systems, and similar activities can only be performed with the help of skilled and unskilled labor.

Need for Engineering Services

It is imperative that the Department employ a capable engineer to plan and supervise approved construction work. The Game Management and the Fish Management operations require the application of skilled engineering services. Facilities must be adapted to the land or the land developed to accommodate planned facilities so grades must be determined, "cuts" determined, structures erected and remodeled, and equipment used to achieve these ends. Costs for a full-time engineer should be shared by the Game and Fish programs and by use of state and federal dollars under the "P-R" and "D-J" programs.

Recommendation No. 1

It is recommended that in connection with the reorganization of the Department and the more adequate financing of its operations the Game and Fish Commission seek authorization for at least six additional game biologists, an engineer, and supporting stenographic and skilled and unskilled labor to carry out a properly planned and developed game management program.

Hunting Grounds

The Department currently provides about two acres of public hunting grounds per licensed hunter. There is a great need for at least two million additional acres which should be developed and managed for public hunting. Several specific programs should be followed in acquiring these lands.

Management Areas

There are large stretches of the Chattahoochee National Forest which are not at this time included in the fine management areas within the Forest. It is earnestly suggested that the management areas within the Forest be consolidated and expanded to include the entire Forest.

The Regional Forester of the U. S. Forest Service in Atlanta concurs with our judgment that, while the present management areas have served a very useful purpose, another step should now be taken to assure a more far-reaching and constructive effort. He agrees with us that a broad cooperative effort to improve game and fish conditions on the National Forest should be undertaken. He further agrees that if the revenue increases recommended in Chapter 4 do not provide the necessary dollars to effect these improvements, the "Virginia Plan" should be instituted in Georgia. Under the

Virginia Plan a fee (of one dollar) is charged all hunters or fishermen entering the Forest, and an equivalent sum is set aside by the Virginia department to improve game and fish habitat in the Forest.

(A copy of the Virginia legislation and the agreement with the Forest Service is available for interested members of the General Assembly.)

While the Chattahoochee National Forest provides an opportunity now for large numbers of hunters and fishermen, as well as other outdoor enthusiasts, to enjoy their favorite recreations, extending the game and fish programs to the entire Forest would pay big future dividends in increased enjoyment for even larger numbers.

Management areas also should be obtained in other sections of the State by enlarging the leasing program and by developing farm-game tracts as described in the following suggestions.

Leased Management and Hunting Areas

Extensive tracts of land are available in timber plantations and in other large tracts under single ownership of individuals or corporations. However, until the Department can offer reasonable inducements and protections to the owners, it is unlikely that such tracts can be opened for game management and public hunting (or fishing). Game biologists of the Department and the Consultant Team believe, however, that individual and corporate landowners of large tracts stand ready to cooperate in opening such tracts if they can be assured of reasonable protection against three hazards which exist under present conditions: protection against unreasonable liability suits from hunters and fishermen using the lands by permission, damage to the property, and indiscriminate shooting near dwellings and similar facilities.

Liability Protection. Reasonable protection from liability suits is the first step to opening approximately a million or more huntable acres and a large number of fishable streams to hunters and fishermen in areas where there now is little opportunity for these recreations. Landowners are apprehensive of possible substantial liability for injuries suffered by persons using their properties. Obviously, landowners shrink from the prospect of paying extensive damage suit judgments to hunters or fishermen who used the land at no benefit to the owner. Such lands are not, of course, developed for residential or commercial purposes which requires the correction of hazards. If such correction were economically beneficial to the owner, the lands probably would not be available for hunting and fishing but would be used for financially beneficial purposes. Hunters and fishermen presumably want largely undeveloped areas for their sports, and many game species demand it for their habitat.

Other states have met this problem and obtained extensive privately-owned tracts for management areas and for general public hunting and fishing. They have achieved these benefits by enacting **limited liability laws** to protect cooperating landowners. Under these acts the owner "who gives permission to another person to hunt, fish, (etc.) . . . upon such premises shall owe no duty to keep the premises safe for entry or use by such person or to give warning of any hazardous condition on such premises, and . . . does not thereby extend any assurance that the premises are safe for such purpose, or constitute the person . . . an invitee to whom a duty of care is owed." However, if the owner charges the hunter or fisherman for this privilege, he does not gain the limited protection from liability. Nor does the act relieve him of liability "which would otherwise exist for willful and malicious failure to guard, or warn against, a dangerous condition, use, structure, or activity. . . ."

These laws clearly provide only limited, and not complete, immunity to liability suits. They do, however, protect the landowner from unreasonable actions by persons who use his property by his willingness to accommodate the public.

Recommendation No. 2

It is recommended that the Game and Fish Commission seek favorable action by the General Assembly on legislation which would grant limited immunity from liability

suits for landowners who cooperate with the Department in opening privately-owned lands to game management and to public hunting or fishing.

(The present acts in effect in Virginia, Tennessee, and North Carolina are available to any interested member of the General Assembly.)

Property Protection. Protection from property damage is another essential protection to landowners requested to open their lands to public hunting and fishing. It is believed that Georgia hunters and fishermen, like those elsewhere, will be appreciative of the landowner and will leave him with no regrets for having supplied the sportsman a place to enjoy a day afield with his "comrades in arms." But assurance is needed that the few who might abuse the privileges granted will be dealt with in such a way that others will not grow careless or malicious as they use the property of the cooperating landowners.

This protection is afforded in other states in two ways. First, acts of negligence or vandalism or malicious mischief which result in damage to the landowner's property are made unlawful and punishable by the courts with penalties sufficiently severe as to act as strong deterrents. Second, the department is provided with adequate rangers (and sometimes with dollars to meet reasonable expenses, but not salaries, to recruit and train "deputy rangers," or volunteers) to provide a considerable amount of patrol protection against property damage. The ranger force is empowered to enforce trespass laws and take action against violators.

A number of states recently have added provisions to their laws which make it unlawful to deposit garbage or trash on another's property while hunting or fishing, or to leave gates and bars open, or to block the landowner's driveways and other means of entry or exit. Some have added inhibitions against depositing bottles, cans, and other trash in streams and lakes as one means of avoiding stream pollution and littering property of cooperating landowners. These features in the game and fish laws of a state materially improve relations with landowners and increase the hunting and fishing opportunities for the public, PROVIDED THE LAWS ARE ENFORCED.

The rangers in Georgia already are empowered to enforce the trespass law. There is no good reason why they should not also be empowered to apprehend persons found in the act of destroying or injuring the private property of cooperating landowners while hunting or fishing, with the rangers having authority to issue a citation to the violator or to turn him over to the nearest sheriff for institution of prosecution proceedings, as may be most appropriate under the particular circumstances.

Such a law would not replace, but merely supplement, other laws with reference to destruction of property and thus give the ranger more specific authority and responsibility for quick, on-the-spot service to cooperating landowners — thus, encouraging landowners to make their tracts available for public hunting and fishing.

Recommendation No. 3

It is recommended that the Game and Fish Commission seek specific legislation authorizing rangers to apprehend persons who through negligence or vandalism damage the property of cooperating landowners. Such legislation should also provide protection against dumping garbage, blocking entries and exits, and provide other reasonable protections, enforceable by the rangers.

(A copy of the California act is available for any member of the General Assembly.)

Safety Zone Protection. Protection from indiscriminate shooting near dwellings and similar areas is another essential protection if the Department is to obtain landowners' consent for public hunting and fishing. This is particularly important in obtaining consent for a Farm-Game program. Dwellings and farm buildings, or enclosures where livestock is commonly housed, are of special concern to landowners during the hunting season. "Safety zone" laws have been enacted by a number of states to give farms, livestock, poultry, and other property surrounding occupied buildings a high degree of protection from careless shooting.

Usually safety zone laws prohibit hunting or discharging firearms within 150 yards of occupied residences and outbuildings connected therewith, except by special permission of the occupants where it is necessary to permit recovery of badly wounded birds or animals which have taken refuge within the safety zone. When provided such protection, backed up with adequate patrol and enforcement, many owners are willing to let hunters enjoy the balance of their property. The safety zone is especially useful for increasing the amount of land open for small game hunting.

The principal cost for safety zone operations is the printing and distribution of the official safety zone posters erected to provide warning to hunters that they are approaching a safety zone and should alter direction. The Department need not obligate itself to furnish such posters except to cooperating landowners, and quite often local sportsmen's organizations make the safety zone poster program their own project and provide and post the posters where the owners agree to allow public hunting outside the safety zone.

Recommendation No. 4

It is recommended that the Game and Fish Commission seek favorable action by the General Assembly on "safety zone" legislation.

(Pennsylvania's Safety Zone Law is available to any member of the General Assembly.)

Farm - Game Lands

As noted earlier, Georgia has no program for obtaining access for public hunting (and fishing) to farm-game lands. Such a program is more difficult to establish than large tract programs because the smaller tracts can be merged for hunting privileges only by convincing many small tract owners that the program has advantages to them as well as the public. The owners must also be provided the protections previously recommended for large management areas obtained under leasing programs.

It takes time and effort, and dollars, to locate the owners and obtain their agreement to leases (usually for five years) for farm-game programs. Usually no payment is made to the farmer. He is provided protection which he otherwise needs from trespassers but cannot hope to get without such a program and participation in it. The protections must be provided, of course, for the program to work.

As supplements to such a program the Department might also encourage the development of suitable tracts for public hunting by distribution of seed for game food plots and by providing advisory services for development of game habitat, in cooperation with agriculture agents and representatives of soil conservation agencies.

Recommendation No. 5

It is recommended that the Department actively embark on a program to increase lands for public hunting, by leasing large tracts, enlarging the areas for hunting and fishing in the Chattahoochee National Forest, and by instituting a program of farm-game development and leasing.

The Department also should make full use of utility company rights-of-way in its program of extending lands for wildlife development, conservation, and public hunting.

In some instances the Department may find it necessary to purchase lands in areas where leasing agreements cannot be made. On the whole, however, this phase of development should not be emphasized in comparison to expansion on existing public lands and leasing (no-fee) of private lands.

The Department Game Farm

As previously noted, the Georgia game farm's limited production results in a relatively high cost per bird produced ($15.45 approximately). In general, the birds produced are not able to adapt to the conditions in which they are placed and, therefore, provide some additional hunting but do not

breed and furnish the basis for restocking depleted areas. Most states have found game management procedures much more effective and have turned to trapping and transferring wild game, after habitat conditions have been corrected, as the means of restocking depleted areas.

Recommendation No. 6

It is recommended that the Game and Fish Commission either close the Game Farm at Fitzgerald or convert its operations to production, on a more limited scale, of exotic species that hold promise for the future. If not closed, the use of birds raised should be critically reviewed and a definite policy agreed upon for distribution to meet needs under a soundly planned management program. Moreover, if the Farm is not closed, its primary use should be for research on diseases and parasites, food habits, and similar programs related to game birds in cooperation with the University of Georgia.

Use of Pittman-Robertson Grants

Some uses of grants under the Pittman-Robertson Act are of questionable relationship to the announced objectives of that program. Pressures arising from inadequate revenues apparently have encouraged some stretching of program concepts. These are grave risks which are not justified when there are so many valid needs for Pittman-Robertson grants which have not been met and could be met with no question as to compliance with the Act. Since the loss of all "P-R" monies could occur if unfavorable interpretations were made of Department intent, these risks are not justified.

Recommendation No. 7

It is recommended that the Game and Fish Commission review all programs utilizing Pittman-Robertson grants and make certain that no valid question can be raised as to use of such grants in compliance with applicable rules and regulations.

SUMMATION

The Department's game program has several weaknesses which can be corrected largely by administrative action by the Department. Sympathetic action by the General Assembly will be needed if the Department is to obtain needed biologists and support personnel, including rangers, for more adequate patrol and enforcement procedures. Favorable action by the Assembly also is needed to enact laws which provide: (1) limited immunity to liability suits to landowners who cooperate in extending use of their privately-owned lands to hunters and fishermen for public use; (2) protection of such properties from careless damage or vandalism and from depositing of garbage, trash, and junk, and; (3) safety zones for protection from indiscriminate shooting near dwellings and other special areas.

With enactment of these laws the Department should embark on a specific program to increase lands available for public hunting in the National Forest, large tracts under single ownership, and farm-game tracts.

The Department also should reconsider its present operating pattern for the Fitzgerald Game Farm and either close it, convert it to production of exotic species which can be expected to thrive in Georgia, or curtail its production and adjust its distribution policies.

Finally, the Department should review its use of Pittman-Robertson grants and make any necessary adjustments in present use and in policies for use of such grants to make certain that no question can be raised as to the propriety of Department expenditure of such grants.

By adoption of these proposals the Game and Fish Commission will be able to provide an extremely attractive game management program — one which will attract more sportsmen to the program, attract the interest of industrial leaders, and help materially to satisfy the needs of Georgia citizens for outdoor recreation.

VIII. GEORGIA'S GAME AND FISH LAW ENFORCEMENT PROGRAM

The fundamental purpose of the Game and Fish Department should be to create and stimulate a more active interest in the enjoyment of all wildlife resources, whether by harvest (hunting and fishing), esthetic appeal, or plain pride of ownership. If more people can be led to any of these forms of enjoyment and stimulated to a closer association with nature, then a positive, progressive purpose will have been achieved.

This does not mean, however, that Georgians should all get misty-eyed over the thought of a newborn fawn struggling to its feet beside its mother. Rather, for the Department it means that the business of taking a man's mind off the cares of the day and adding to his enjoyment of life is important to the health and welfare of Georgia's citizens and deserves to be handled in a businesslike way.

There are many facets to handling the wildlife program in a businesslike way. Elsewhere in this report, the consultant team has stressed the importance of sound organizational structure, proper functioning of the Commission itself, sound policies and procedures, ample provision for research, sound game and fish management, and other businesslike improvements in the wildlife program. Law enforcement also must play its part.

The one most often heard request from sportsmen and commercial fishermen was for more and for improved law enforcement. Partially this request stems from a lack of awareness of the real purposes of wildlife resource management. Partially it comes from valid needs for more law enforcement to protect Georgia's wildlife resources.

ENFORCEMENT RESOURCES

The Department's law enforcement program is under the direction of a Law Enforcement Division Chief (the position currently is vacant and the Acting Director is assuming the responsibilities of the position). The Chief reports directly to the Department Director. The Division Chief directly supervises the work of eleven district law enforcement supervisors (or chiefs) whose districts generally cause them to fall **primarily,** but **not exclusively,** within the geographical limits of the congressional districts and, therefore, of the district of one or another of the members of the Game and Fish Commission.

District chiefs are responsible for the total enforcement program within their respective districts. They have no specific responsibility for other Department activities, but they are expected to cooperate with other Department program personnel when requested to do so.

Staffing

To provide game and fish law enforcement for Georgia's 159 counties and 59,000 square miles, the Department presently (November, 1963) employs 123 rangers, 11 district chiefs, two assistant chiefs, twelve field stenographers, and several headquarters supportive personnel plus radio and boat and vehicle maintenance crews. Although the "force" totals considerably more than half the total employee authorization of the Department, and although the ratio of law enforcement employees to biologists is considerably greater than is generally recommended, few qualified people would argue for a smaller ranger force. One way to measure the size of the law enforcement job against the complement of rangers is to compare the number of rangers with the number of counties. Table I is such a comparison.

TABLE I

ALLOCATION OF LAW ENFORCEMENT PERSONNEL BY DISTRICT
November, 1963

District Name	Location of District Headquarters	Name of District Chief	Number and Type of Other District Employees	Number of Rangers	Number of Counties
Ogeechee	Metter	J. D. Atchison	1—Steno	11	13
Plains	Thomson	D. E. Whitaker	1—Steno	13	18
Fitzgerald	Fitzgerald	R. D. Carnes	1—Steno	6	11
Management	Gainesville	Hubert Handy	1—Asst. Chief 2—Steno 1—Radio Oper.	20	18
Flint River	Dawson	S. H. Bush	1—Steno	15	23
Mountain	Calhoun	W. E. Murphree	1—Steno	13	19
Waycross	Waycross	M. Hatchett	1—Steno	13	13
Pine Mountain	Manchester	L. P. Cotton	1—Steno	8	15
Piedmont	Macon	J. W. Thomasson	1—Steno	6	8
Fort Valley	Fort Valley	Robert S. Baker	1—Steno	10	14
Coastal	Brunswick	David Gould	1—Asst. Chief 1—Steno 1—Janitor	8	7

Obviously any precise measurement of enforcement staffing requirements must consider factors other than the number of counties. In establishing staffing needs other factors to be assessed carefully include area to be covered, suitability of transportation routes and of vehicles, extent of hunting and fishing and related outdoor activities, variety of recreational opportunities and resources, history of problems in the area, attitudes of local peace officers and courts, and calibre of enforcement personnel. (No attempt to make such an assessment has been made by the consultant team. Extensive and intensive study beyond the time available would have been required to do this. Moreover, satisfactory results could be obtained only after development of many facts not now available.)

There is one stenographer in each district office (two in the Management District). In addition to performing stenographic duties, she normally serves as radio operator during her time on duty from Monday through Friday. The stenographer is not on duty on week-ends and holidays although the rangers are usually busiest on these days. Frequently a ranger is pulled in from patrol duty to "cover" the radio; the chief sometimes provides "relief"; and the wives of chiefs with adjacent residences provide extensive relief service as radio operators.

Facilities and Equipment

In five of the eight headquarters offices visited by members of the consultant team, the district office and a residence provided for the chief and his family are parts of a single building. This

residence is provided at a nominal rental — $15.00 per month plus the services of the chief's family as relief radio operators and telephone operators. The chief generally loses all hope for privacy and freedom from interruption if he remains at home during "off-duty" hours. (Much of the rangers' work also starts from calls received during "off-duty" hours.)

Rangers are furnished uniforms, and when the preliminary training program for a new ranger is completed — six months under the "buddy" or "big brother" system — the ranger is assigned a vehicle. While the ranger is new, the vehicle usually is not. Since the terrain is often difficult and passengers are seldom transported, half-ton pickup trucks are used. Each ranger is furnished from five to eight retail credit cards to purchase gasoline for the truck from retail service stations at retail prices. (Billings are consolidated by the oil companies and forwarded to headquarters with monthly statements.)

For repairs to ranger vehicles the ranger must have prior approval. If the repair will cost less than $15.00, the district chief can approve the transaction and send notice to Atlanta (by radio usually) of his action. If the cost will be between $15.00 and $50.00, the chief must obtain advance approval from Atlanta with radio approval being permissible. On repair costs in excess of $50.00, advance written approval from Atlanta is required.

All districts operate radio stations, using the same frequency. All vehicles and boats are equipped both to send and to receive on this frequency. Boats are available for patrol duty on the coast and in other areas of need.

PERSONNEL PRACTICES

With a decentralized and relatively large employee force for law enforcement, the effectiveness of the enforcement program is largely dependent upon the quality of the rangers and upon the degree of coordination and uniformity of their actions.

Policies and Policy Changes

Rangers are trained, as explained later, primarily under the "buddy" system. To the extent that the experienced ranger knows policy, the young ranger has an opportunity to become informed. But the Department does not have policy and procedural manuals aside from the digest of laws and regulations issued for Department employees and the digest prepared for sportsmen. Regulations concerning seasons and harvests do pass through the hands of rangers since they are responsible for posting them at three legally designated places, but no copy is furnished for them. Policies affecting working conditions, handling of expenses incurred, and other matters of importance to rangers and to their morale are handled, if at all, by brief discussion at periodic meetings at district headquarters.

Employee Participation in Policy Development

In a number of districts the chief holds meetings for the ranger staff at intervals of two to four weeks. He discusses with them any enforcement problems, the established seasons and harvest regulations, changes in records, etc. These are not "training" sessions beyond the informal result of being told about new developments — perhaps. Neither are these sessions used to obtain the judgment and thinking of rangers. The consultant team frequently was told in group meetings which it held with rangers that "we have been informed that we are not paid to think." Neither are they consulted concerning the best dates for hunting and fishing seasons or the appropriate level of harvest. Their opinions are not sought concerning enforcement policies for their own districts or statewide; nor is their experience and judgment sought in setting basic policies which directly affect them and the quality of the Department's operations. Very rarely do rangers have any contact with Atlanta-based officials of the Department.

Working Hours

Generally rangers are expected to work six days each week with an average working day (or night) of about ten hours. At times the workweek may be somewhat lighter because of reduced activities in the district, vacation schedules, and the area under patrol. Rangers work on week-ends and on holidays because they are the days of greatest activity by sportsmen.

Usually it is not possible, under present Department policy, to allow the rangers compensatory time off for holidays worked. Working hours for non-supervisory employees of the Department, other than rangers, are from seven to eight hours daily, five days each week (Monday through Friday). Holidays and week-ends are taken by these employees.

The distinction in working hours, and the exclusion from participation in policy development, along with the commonly held belief that the Public Safety Department has solved at least the problem of allowing holidays off, have some tendency to reduce ranger enjoyment of their Department duties.

Employment and Assignment

Practices in regard to employing and removing rangers were briefly discussed in Chapter II, **History, Functions and Organization of the Department.** That discussion centered on the failure to observe merit principles and the failure of the Commission to remain aloof from transactions affecting individual rangers.

In its employment practices the Department has exhibited a number of dubious procedures. The Department personnel office accepts applications even though the Merit System Offices are only a block away. After filing an application with the Department, the applicant usually is sent to the Merit System Office where an almost identical application must be completed and an examination of doubtful suitability is taken. Successful applicants are placed on an eligible roster for the county of residence, and the Merit System's roster of eligibles for certification thus becomes a **county roster.** On December 17, 1963, there were three or more names on the roster for only two counties; the roster for 127 counties had no names. Under the "Rule of Three" the Department can always select the person it desires, provided he has qualified. However, the practice of "certifying by name" has developed so that the Department simply asks that the Merit System certify only the name of the person it wants to employ. For example, from July, 1961, through December, 1963, all appointments to the ranger force were individuals who had been certified by name. Of 107 positions throughout the Department 66 were filled by this procedure.

The Merit System carries on continuous examinations for ranger positions and processes a very large number of applicants. Because the force is not a truly large one and the qualifications are not high, this arrangement tends to dove-tail with the county roster system to prevent the development of a class of trainees recruited within a short period of time and then given intensive preparatory training before field assignment. Employees readily admit that rangers generally have been selected on the basis of their acquaintances within their home counties. One result, perhaps: of 23 separations checked 18 were for disciplinary reasons.

As already indicated, the Department employs rangers from county rosters. Moreover, it assigns rangers back to the home county. This violates accepted practices of most policing organizations which operate on a statewide basis. Generally, it is believed that it is better to train a new officer in an area where long-standing friendships or enmities will not affect the learning of one basic idea: that his responsibility is to treat all persons alike under the law — as nearly as violation circumstances permit. The Department's opposite policy of assigning rangers to the home county probably stems from the problems of making arrests (see ARREST POWERS AND PROCEDURES below) since an unfriendly sheriff can almost completely block the work of the ranger. By assigning the new (and the old) ranger to "friendly" territory, it is hoped that he will be able to work with the sheriff in achieving a reasonable level of law observance. It is possible that political considerations also have had some bearing.

Training

New rangers are assigned to an experienced ranger to receive "buddy" or "big-brother" training. Usually this "school" lasts for about six months.

In recent years the Department has held formal training programs only when the boat licensing system was established although Commission policy is to provide an annual training school for all rangers. Until several years ago schools were held from time to time. At that time one-half of the ranger force went to school one week, and the other half attended the following. These inservice schools apparently were dropped as an economy measure.

In some organizations performance evaluation is used as a training device, as well as a device for comparing candidates for promotion, determining pay promotions, and other transactions. Under Merit System Rules the Department is required to evaluate job performance of every employee at least annually and for promotions. The Department has ignored the rule but does evaluate employees for promotion situations. It is doubtful that promotional evaluations, particularly in the atmosphere which has generally prevailed in this Department, serves any merit system principle. In any event, performance evaluation is not being used for one of its principal benefits, identifying weaknesses and through counseling and guidance finding ways to improve performance.

As noted earlier, the ranger also loses the training advantages which a system of policy and procedure manuals might provide since the Department has no such manuals.

(Note: Recommendations on Training needs have been made in Chapter III.)

Promotional Opportunity

In theory a ranger may progress from his status as a ranger to the position of district chief, thence to Law Enforcement Chief, and finally to the position of Director of the Department. This has occurred.

Under present circumstances, however, a ranger who climbs this ladder incurs serious handicaps because neither his day-to-day assignments nor the limited contacts he has in the district chief or Law Enforcement Chief positions prepare him to understand game or fish management or game or fish biologists. Even if this were not true, the promotional opportunity for most rangers is extremely limited. For the present 123 rangers there may be some hope of succession to one of the eleven district chief positions; for the eleven district chiefs under present conditions there is theoretically a chance for the position over all district chiefs. The odds are rather high against promotion of qualified men.

Under merit rules the ranger can, of course, reecive in-grade pay adjustments until he moves from his starting pay of $296.00 to $385.00 per month. For most rangers the only way to move beyond this figure is for the General Assembly to approve an increase in the upper limit of the pay grade. For this compensation a good ranger is expected to work the long hours described earlier; to face the loss of his position for political reasons with equanimity; to work with hostile as well as honest sportsmen; to handle violations; to serve as "Mr. Information" on wildlife to youngsters and many sportsmen; to justify Department season and harvest regulations in which he has had no part in developing; to assist in handling managed hunts or managed fishing areas from time to time, usually away from home; and, rarely (although it should be regularly) to assist biologists in various inventory procedures designed to help them develop recommendations on seasons and harvest or develop better hunting or fishing areas. Fortunately, as noted earlier, he is not "expected to think" — except, perhaps of the consequences of arresting the wrong sportsman, or the hazards of chasing a "firehunter" or a night deer hunter a high speed, or the pleasure of approaching a group of armed and perhaps truculent hunters not known to him or making a check of other sportsmen who considerably outnumber him and may have arms at least as good as his sidearm. Rangers, across the nation, do frequently get hurt; occasionally one is killed.

PERFORMANCE RECORDS AND REPORTING

With one exception performance reports on ranger activities are not (or generally have not) been prepared by district chiefs. In one district relatively high quality reports have been developed and are in use. Rangers generally have not been required to follow-up cases to learn of dispositions from authoritative sources. A test-check by the district chief of one district revealed that information obtained by one ranger from the sheriff of one county was completely unreliable. Instead of filing and closing all cases of the past six months by proper disposition, the sheriff had never filed most of the cases; and none had been disposed of. Reliance upon court records is now the policy of that district. It is understood that other districts are not yet maintaining control over cases. Generally rangers are, therefore, not required to develop records from which such reports could be prepared. Nor do they tabulate and report their activities.

ARREST POWERS AND PROCEDURES

Under existing statutes rangers have authority to arrest violators of game and fish laws and Commission regulations. They may serve warrants related to offenses against these laws and regulations. They may (and do) bear arms. They may arrest for trespassing. However, they are not "peace officers" as this term is commonly applied although they are eligible for membership in the state retirement system for peace officers.

Although empowered to arrest for game and fish violations, the arrest procedure for rangers is not detailed in present law. Practice depends upon the attitude of the local, elected sheriff and of local judges serving particular counties. Violators of game and fish laws who are not residents of the county in which they are apprehended are almost invariably taken to the county sheriff to be booked, to make a cash bond, or an appearance bond (by a local property owner), or be jailed. In some counties the sheriff has agreed for the ranger to issue a copy of his report of violation form to the violator if the violator is a resident of the county in which he is apprehended. The violator, then, is supposed to make his appearance at a stipulated time or mail in the prescribed fine by that date. On the stipulated date he may make cash bond (which he probably will forfeit), an appearance bond, or in theory go to jail. County residents appear to fare much better than persons from other counties, but this is not the universal practice. For example, in one district the sheriff in four counties requires that all violators be brought before him by the ranger. The sheriffs in the other counties distinguish between county residents and residents of other counties.

Since a high percentage of cases are filed against non-residents of the county, most violators are taken to the sheriff or his official deputy. They may enter a guilty plea and pay the fine or be sentenced to jail; they may post a cash bond and choose to forfeit later or later appear for trial; or they may make the appearance bond by pledging local property if they know a local property owner who is willing to make the bond.

Under these conditions rangers who make arrests spend a considerable amount of time taking violators to the sheriff or trying to find the sheriff.

There are other complications. For filing the case against the violator the sheriff is entitled to a statutory office fee. For handling the case, other statutory office fees are added to this. Frequently these costs add to about $42.50. If the defendant is assessed a lower fine or forfeits a lower cash bond, the county must make up the difference by drawing on other county funds to pay into the statutory fee funds. Some county officials find this an unsatisfactory arrangement. They are particularly displeased, frequently, on cases involving local residents who are more likely to be assessed low fines. Even for out-of-county residents the fine frequently is less than the sum of the fees since there are advantages to the local communities in attracting, rather than angering, sportsmen from other areas. Rangers find cases hard to file in some counties.

The statutory power of arrest extends to violations of game and fish laws and to violations of Commission regulations. Local prosecutors sometimes consider violations of statutes of more

significance than violations of regulations, and some refuse to take action on violations of regulations. Since a great many of the boating cases are based on regulations, enforcement lags in some areas.

Certain counties present special problems. A violator caught in one particular county, for example, at any time other than the three periods each year when the Superior Court is in session cannot post a cash bond and cannot enter a plea. Nor can he post bail bond since there is no bail bondsman in the county. He can only hope that some local resident who owns property or other collateral will be agreeable to going his bond. The violator could encounter some delay in returning home.

LAW ENFORCEMENT PROBLEMS

Aside from the organization and coordination problems discussed in Chapter II, ranger problems relate primarily to staffing inadequacies, personnel policies, inadequate controls and reporting, and difficulties connected with arrests and prosecutions.

While no study has been made of staffing as such, it is apparent that repeated complaints of inadequate law enforcement, especially in the coastal region, are justified. This appears to indicate either that the Department has an insufficient number of rangers or they have not been allocated in the best manner to meet needs. The problem of measuring needs is considerably handicapped by the difficulties in arrest procedures which require excessive amounts of time for each arrest.

Much Department equipment is worn-out, especially the half-ton pick-ups with more than 100,000 miles of which a number were seen by the consultant team. Practices relating to gasoline purchases, distribution of tires and oil, control over repair jobs, and a number of related "business" practices are anything but businesslike.

The differences in arrangements for district headquarters and residential housing between the various districts pose problems of equitable treatment, impose considerable burdens on the families of the chiefs, and tend to be somewhat more confining than probably is in the best interest of either the chiefs or the Department.

The working hours of rangers are excessive. The scheduling which precludes rangers from being off-duty on holidays **and** from obtaining compensatory time off is unreasonable in a day when working hours are being progressively reduced for employees in most vocational areas. The assumption that the ranger must be on duty on holidays but that radio coverage by stenographic-radio operators is not needed or should be provided by rangers brought off patrol for this purpose seems inconsistent and rather unrealistic. The customary hiring, firing, and assignment practices (to home county), the evasion of the intent of the eligible rosters as the source of recruits, the lack of intensive training and of policy and procedural manuals, the lack of promotional opportunity, and the lack of adequate performance evaluation and of adequate reporting on law enforcement work are all indicative of a lack of awareness within the Department of what it takes to make an effective law enforcement operation. The failure to involve rangers in thinking about Department programs and assisting in other than strictly enforcement duties wastes a highly valuable resource: the knowledge and experience of these men.

The arrest procedures now followed are an invitation to many problems: unnecessary aggravation for the "innocent" violator of relatively minor regulations or statutory inhibitions; confinement of violators for unjustified situations; unnecessary time loss from patrol for the ranger who finds violators; unequal treatment before the law based on county of residence and local political considerations; unnecessary hardship on county treasuries; an imposition on local sheriffs; and pressures on rangers to ignore minor infractions in order to reduce the number of inequities brought about by their performance of assigned duties.

PROPOSALS

A number of the major problems in law enforcement will be eliminated or reduced by implementation of the proposals in Chapter II concerning reorganization and involvement of the ranger force in the coordinated field and planning operations. Other needs do exist, however.

Personnel Practices

To recite the difficulties which arise from present personnel practices is almost to prescribe the cure. A number of policy and procedural changes are needed.

Merit Concepts

Substantial upgrading of law enforcement depends upon quality performance by qualified men. This, in turn, requires conscientious application of merit principles to all transactions affecting the ranger force; and it requires full understanding on the part of all members of the ranger force that these principles are to govern their employment, transfers, promotions, and other relationships. Groups previously allowed to intervene also must understand this.

Recommendation No. 1

It is recommended that the Commission adopt a strict policy for handling all personnel transactions in accordance with merit principles. All hiring, transfers, promotions, disciplinary actions, and terminations should be related strictly to employee qualifications and performance.

Recruiting and Promotional Examinations

Existing examinations for recruits and qualification standards should be reviewed to determine that they conform to Department needs. Testing applicants for knowledge which the Department should provide as a part of inservice training is not generally considered to be sound. Interests may, of course, be determined to some degree from such tests. Promotional examinations should be developed which require considerably more knowledge of experienced employees seeking advancement than is required of raw recruits. The examination also should include an intensive oral examination by a group of qualified persons within the Department, such as representatives of law enforcement, game management and fish management — because the Department's leaders even at field positions should understand the total framework of Department operations.

Recommendation No. 2

It is recommended that the present examination and recruit standards be reviewed and improved; that promotional examinations include more rigorous testing, including oral interviews; that eligible employees be informed of promotional opportunities and be informed of test results.

Promotional Opportunities

Several tasks performed by rangers require considerably more experience, more training, more ability to deal with diverse public groups, more ability to assume temporary leadership of other rangers, and more ability to provide individual training to recruits. For rangers who can handle these important tasks which depend upon experience and training and higher personal qualities, a higher position classification should be provided. Promotion to the higher classification should, of course, be based on merit principles and careful analysis of past performance, ability of the ranger to handle himself, results in Department schools attended, and similar matters including an oral interview board's findings.

It is suggested that the State Merit System be requested to establish a new position classification, Ranger II, to be set in the Compensation Plan at approximately two pay grades above the existing level for Rangers I.

In addition, rangers should be encouraged to take special Department training and engage in cooperative work with game or fish biologists in order to qualify for promotion to work as biological aides at the level currently designated as Biological Aide II (now pay grade 20). (As indicated elsewhere, the designation Biological Aide I should be dropped). Experienced rangers should readily qualify for promotion to the redesigned position as Biological Aide. Work in this classification would also do much to prepare rangers for broader responsibilities as a district chief should openings occur in this area. A few might, in time, take leaves or otherwise arrange for special courses in biological sciences which could qualify them to move into the biologist field.

Every reasonable effort should be made to upgrade the quality and the opportunity of rangers.

Recommendation No. 3

It is recommended that the Commission improve the promotional opportunity for rangers.

Ranger Assignments

The current practice of assigning rangers to their home counties is of doubtful wisdom even though it may encourage cooperation from local law enforcement officers. Revision of arrest procedures, as suggested later, should be a more effective means of handling the need for prosecution and disposition of game and fish cases. Placing the ranger in an environment which encourages due attention to fair treatment of all licensed and unlicensed hunters and fishermen is essential if the ranger force is to develop public respect.

Recommendation No. 4

It is recommended that the present policy of assigning rangers to the home county be reviewed and that in the future rangers be routinely assigned at least for their first few years to areas in which they have not previously lived.

Working Hours and Conditions

Rangers now work schedules considerably longer than is reasonable. Probably in some cases this has caused rangers to considerably curtail their effective working hours. For the conscientious ranger, however, the present system of long hours six days each week PLUS holidays and plus the necessity of working each week-end creates a heavy burden which understandably could make "Jack a dull boy".

If full patrol should be provided on week-ends and holidays because more sportsmen are hunting or fishing, then it is inconsistent that on these days the headquarters radio for the district can be operated only by pulling in a ranger from patrol duty. Within each community there should be responsible persons who can be taught to handle the radio in these duty periods for reasonable compensation.

Recommendation No. 5

It is recommended that the Commission make the necessary staffing arrangements to reduce patrol or to add additional rangers, as determined by a comprehensive staffing study, so that rangers may be allowed compensatory time off for holidays worked. Arrangements also should be authorized in each district headquarters for a relief radio operator to serve on week-ends and holidays.

Performance Evaluation

As part of the program to upgrade ranger operations the Commission should require at least semi-annual performance evaluations by the district chief with review at regional headquarters

and at field headquarters in Atlanta. The district chief should encourage each ranger to review the rating and discuss with the chief means of improving his performance to raise the rating.

(Note: A comparable program is needed for all employees.)

The Department should modify the State Merit System form to fit the responsibilities and duties of rangers and yet achieve the generally standardized results desired by the Merit System.

Before each rating period the regional manager, at regular staff meetings for the region, with the assistance of specialists from headquarters, should review with all rating officers the proper techniques, meaning of various terms, apparent errors in previous ratings, traits of special importance and due special consideration in rating rangers, cross-checks which the rating officer can apply to his judgment to maintain reasonable impartiality, how to conduct the rating interviews with rangers, the records to maintain, and similar matters. Any rating officer unable to attend these training sessions should not evaluate his men until he has had a refresher discussion with qualified specialists. Employee performance evaluation is valuable if properly done and a horrible waste of manpower and human emotions if sloppily handled.

Recommendation No. 6

It is recommended that the Commission require semi-annual performance evaluations for all employees (including the ranger force) and that before each rating period all rating officers be required to review the policies, procedures, and principles of rating and the implications of proper employee evaluation.

Law Enforcement Reporting

Each law enforcement district chief should be required to provide weekly and monthly reports concerning district activities. Statistical data for the period and for year-to-date totals should be provided in the weekly reports; to the monthly reports should be added comparable data for same period in the preceding year — after the reporting system has been in effect for a year. The comparative reporting will permit analysis of trends, as well as total volumes, for use in developing policies, regulations, and staffing planning.

Reported information should include items for major violations by type, total number of violations, number of warnings (if any), number of arrests, number of appearance notices without delivery of the violator to a magistrate or sheriff, number with "delivery", number of cases disposed by forfeiture of cash bond, number disposed by dismissal, number arrests not yet filed by sheriff (if system is not revised), number pending on "no appearance", and similar items. Totals for all violations should also be recorded.

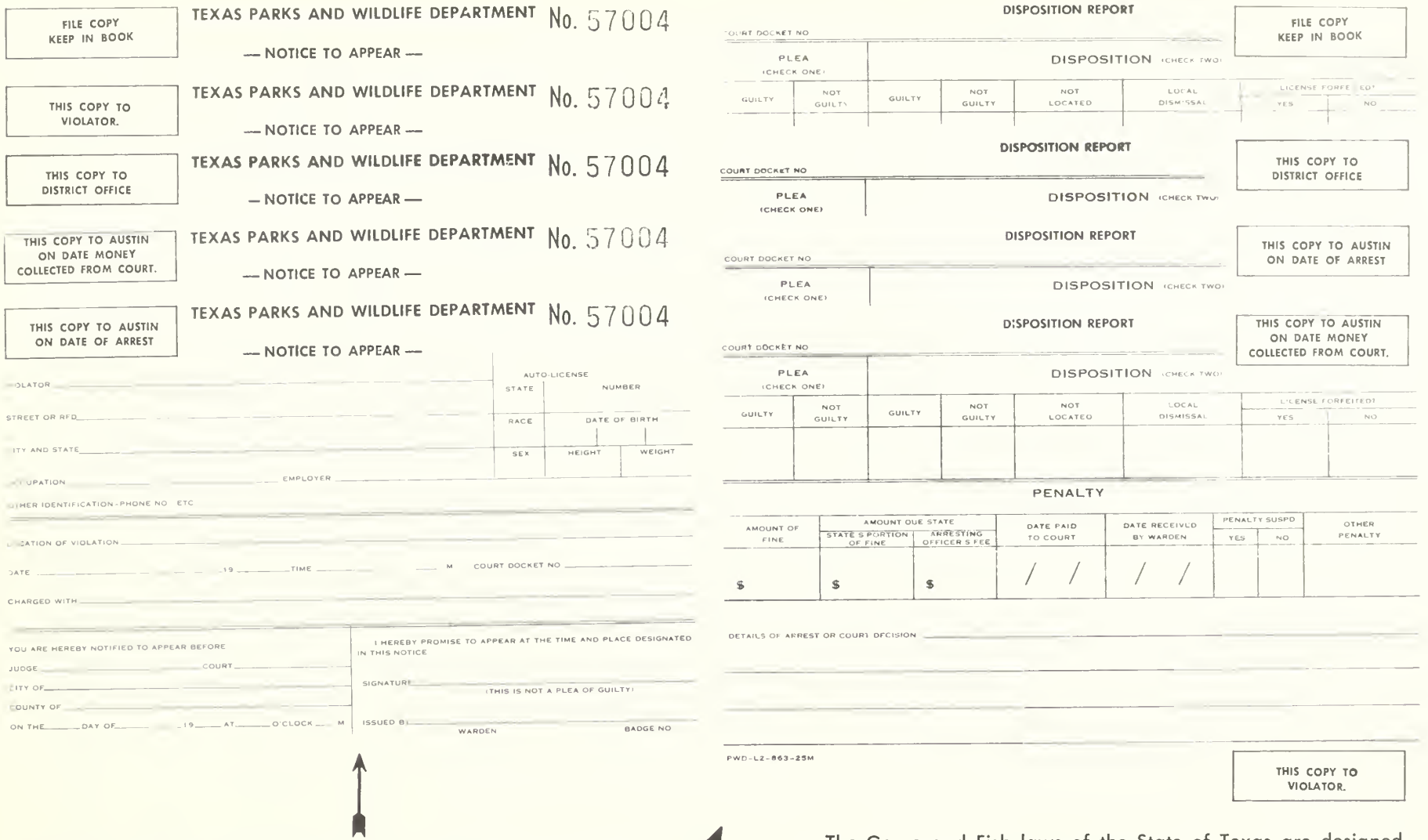
The consolidated report for the district must, of course, be based on reports received from individual rangers. Rangers should also report to the district chief the duty schedule for the preceding week, areas patrolled each day, mileage recorded, time taken off for vacation leave or compensatory time or other reasons, and other information of help in reviewing work and planning future assignments and policies. Selected "cooperative" activities also should be reported.

Recommendation No. 7

It is recommended that a carefully designed reporting system be installed for weekly and monthly reports, with comparative data on the monthly reports, to inform regional and state headquarters of law enforcement activities.

Arrest Powers and Procedures

The law enforcement program is handicapped by several procedural and limited authority problems. The general effect of these handicaps is to reduce the fairness and uniformity with which the Department is able to deal with persons who have innocently, or intentionally, violated applicable



FILE COPY KEEP IN BOOK

TEXAS PARKS AND WILDLIFE DEPARTMENT No. 57004

— NOTICE TO APPEAR —

THIS COPY TO VIOLATOR.

TEXAS PARKS AND WILDLIFE DEPARTMENT No. 57004

— NOTICE TO APPEAR —

THIS COPY TO DISTRICT OFFICE

TEXAS PARKS AND WILDLIFE DEPARTMENT No. 57004

— NOTICE TO APPEAR —

THIS COPY TO AUSTIN ON DATE MONEY COLLECTED FROM COURT.

TEXAS PARKS AND WILDLIFE DEPARTMENT No. 57004

— NOTICE TO APPEAR —

THIS COPY TO AUSTIN ON DATE OF ARREST

VIOLATOR

AUTO-LICENSE STATE NUMBER

STREET OR RFD

RACE DATE OF BIRTH

CITY AND STATE

SEX HEIGHT WEIGHT

OCCUPATION EMPLOYER

OTHER IDENTIFICATION-PHONE NO ETC

LOCATION OF VIOLATION

DATE 19 TIME M COURT DOCKET NO

CHARGED WITH

YOU ARE HEREBY NOTIFIED TO APPEAR BEFORE

JUDGE COURT

CITY OF

COUNTY OF

ON THE DAY OF 19 AT O'CLOCK M

I HEREBY PROMISE TO APPEAR AT THE TIME AND PLACE DESIGNATED IN THIS NOTICE

SIGNATURE

(THIS IS NOT A PLEA OF GUILTY)

ISSUED BY

WARDEN BADGE NO

DISPOSITION REPORT

COURT DOCKET NO

PLEA (CHECK ONE) DISPOSITION (CHECK TWO)

GUILTY | NOT GUILTY | GUILTY | NOT GUILTY | NOT LOCATED | LOCAL DISMISSAL | LICENSE FORFEITED: YES | NO

DISPOSITION REPORT

COURT DOCKET NO

PLEA (CHECK ONE) DISPOSITION (CHECK TWO)

DISPOSITION REPORT

COURT DOCKET NO

PLEA (CHECK ONE) DISPOSITION (CHECK TWO)

DISPOSITION REPORT

COURT DOCKET NO

PLEA (CHECK ONE) DISPOSITION (CHECK TWO)

GUILTY | NOT GUILTY | GUILTY | NOT GUILTY | NOT LOCATED | LOCAL DISMISSAL | LICENSE FORFEITED: YES | NO

PENALTY

AMOUNT OF FINE	AMOUNT DUE STATE: STATE'S PORTION OF FINE	AMOUNT DUE STATE: ARRESTING OFFICER'S FEE	DATE PAID TO COURT	DATE RECEIVED BY WARDEN	PENALTY SUSPD: YES	PENALTY SUSPD: NO	OTHER PENALTY
$	$	$	/ /	/ /			

DETAILS OF ARREST OR COURT DECISION

PWD-L2-863-25M

FILE COPY KEEP IN BOOK

THIS COPY TO DISTRICT OFFICE

THIS COPY TO AUSTIN ON DATE OF ARREST

THIS COPY TO AUSTIN ON DATE MONEY COLLECTED FROM COURT.

THIS COPY TO VIOLATOR.

Frontside: Five-part, color-coded form with identical information except for instructions as to use of each copy.

Reverseside: Four-parts identical except for instructions as to use. Violator's copy used to encourage compliance.

Note that forms are pre-numbered for control.

The Game and Fish laws of the State of Texas are designed to conserve and propagate all wildlife resources of the State to the equal benefit of every citizen.

The issuance of this Notice to Appear, and any subsequent court action which may ensue, are intended to secure compliance with the Game and Fish laws of Texas by all residents and non-residents in this State. Your voluntary compliance with these laws will assist this conservation program.

laws and regulations. They also cause the Department, a statewide agency with statewide responsibilities, to act under the control of a local officer to treat State citizens and others unequally because of their place of residence rather than distinguishing between them only on the basis of need to protect the public welfare and the violation.

Appearance Notices

Game and fish violations, by law, are misdemeanors. The practice in most states in dealing with persons charged with misdemeanors is to treat them with as much consideration as is reasonable under the circumstances and with due allowance for the demeanor and condition of the person. In Georgia apparently the assumption is that a misdemeanant cannot be trusted to appear to make his plea and settle the charges against him.

Certainly if the arrest routine is revised to conform to the proposed plan, there will be some persons who will not make the required appearance; but there are means of handling these few without imposing the present situation on all out-of-county violators and many in-county violators. Generally an experienced ranger will be able to determine in advance those who are most likely to come within the difficult group. Serving warrants on the others will do much to encourage proper attention on the part of any who might otherwise fail to appear.

Recommendation No. 8

It is recommended that, except in aggravated cases to be generally defined by the Commission, rangers issue an appearance notice to violators and not take them before a magistrate or other officer to be booked.

The "Notice to Appear" form now used by the Texas Parks and Wildlife Department is shown on the following page. The five-part form provides a copy to the violator which he presents to the proper court with his plea at the appointed time, a copy for immediate (day-end) mailing to district headquarters, a copy immediately forwarded (through district headquarters) to State headquarters, and a copy forwarded through district to State headquarters when the case has been disposed of. The ranger keeps a copy in his book. The pre-numbered forms are checked by the District Chief at the time new books are issued and are subject to field inspection at any time. All forms must be accounted for satisfactorily. The numbering permits control over rangers; it also permits ready counting of actions; and it provides a ready means of filing.

Filing Charges

The traditional dependence in Georgia upon the office of the sheriff to file charges and accept bonds poses a problem for the Game and Fish Department under present laws. The proposed appearance notice system will not work if the sheriff's voluntary cooperation system remains a requirement. The Department operates in all counties; inevitably there will be some sheriffs not interested in game and fish violations; and some solicitors general and judges may be expected to have coolness toward the cases. Legislation to give ranger actions the same status as other misdemeanor cases and to ease the problem of obtaining bench warrants and other similar actions is needed.

Recommendation No. 9

It is recommended that the Game and Fish Commission seek legislation which would authorize the use of appearance notices, without "delivery" of violators for booking, and which would authorize rangers to obtain bench warrants or other court summons when violators fail to make due appearance. The legislation also should make failure to appear a misdemeanor. Warrants should be obtainable in the county of residence without regard to the county in which the offense occurred upon proper presentation to the judge of a copy of the original appearance notice and an affirmation by the arrest-

ing ranger (or other person designated by the district chief) that the named person had not appeared to present his plea and had not submitted the prescribed fine by the required date.

In applying for warrants for failure to appear, the Department should be zealous but a few days leeway should be allowed the violator. Rather specific operating procedures should be developed as Commission regulations as soon as the suggested legislation has been enacted.

(Copies of the Texas legislation for this purpose are available, and similar materials can be obtained from other states.)

The general purpose of these proposals regarding the arresting procedure is to provide equal and fair treatment to all violators; inconveniencing minor violators who are presenting no special problems as little as possible so that they may enjoy the outdoor recreation which they seek, but stepping as heavily as necessary on the toes of those who willfully and obstreperously are abusing the privileges which they share with other citizens.

Status of Commission Regulations

In establishing the framework for arrest precedures and for use of warrants and other practices, the proposed legislation should reaffirm that violations of Commission regulations issued in conformity with applicable laws shall have the same status for prosecution and other action as cases arising from violation of statutory inhibitions.

Recommendation No. 10

It is recommended that the Commission seek reaffirmation of the enforceability of its regulations.

IX. FEDERAL GRANTS AND THE DEPARTMENT RESEARCH PROGRAM

Because the national government has developed two programs of financial assistance for research, restoration, and development work for game and fish, it is convenient to treat the federal assistance programs and the research programs of the Department in a single chapter.

FEDERAL GRANTS

There are two federal assistance (grant) programs of special importance to every state's fish and wildlife program. The Pittman-Robertson ("P-R") program provides three dollars to every single dollar of state money for game research, restoration and development work. The Dingell-Johnson ("D-J") program provides the same matching formula for similar work in a fish program. Grants in both programs are based on the number of licensed persons (hunters and fishermen, respectively) and on a second factor deemed to measure need. Area is the second factor for "P-R" grants, and water area is used as the second factor for "D-J" grants. Both programs operate on a reimbursement basis — that is, the State finances the program on approved projects under an agreement with the U. S. Fish and Wildlife Service, and after completion (or at partial completion periods) the federal government's share of the cost (75 per cent) is paid to reimburse the state.

Georgia participates in both federal assistance programs, but its limited appropriations have considerably curtailed its participation. From 92 to 96 per cent of the Game Management Division budget and 43 to 62 per cent of the Fish Management Division budget has been associated with federal grants. Nevertheless, lack of adequate State monies has prevented full use of available federal assistance. As shown in Table I, during fiscal years 1959 through 1963 the State has "lost" a total of $363,864 in wildlife grants and $20,317 in fish restoration grants which it could have obtained had it provided its share. An additional $124,000 reverted for distribution to other states in fiscal 1957-58, thus in six years more than one-half million dollars have been lost to other states by inadequate allocation of Georgia dollars to these research, restoration, and development projects. Moreover, as noted in the chapter on Game Management, there are some activities on which federal dollars have been obtained about which questions as to suitability could be raised.

Expenditures have largely been for research studies, coordination, and development. Only minor expenditures have been made to purchase land which is also eligible for federal assistance participation. Tracts totalling 13,506 acres were acquired between July, 1938, and November, 1963; and one lake of 660 surface acres was restored in the period from July, 1951, to June, 1962. Over the past few years (Table I) by contrast, expenditures for development in the "P-R" program and for "investigations" (research) in the "D-J" (fish) program have averaged about 90 per cent of total expenditures. Game research, in contrast to the 90 per cent for fishery research, has been nearer to five to ten per cent; while fishery development has been extremely small in contrast to the roughly 90 per cent used for game development. Coordination has been a relatively small user of both game and fish dollars.

To qualify for either "P-R" or "D-J" reimbursement, the Department must maintain adequate financial records to support its expenditures, and it must submit project reports. An accountant jointly paid by the Game and Fish Divisions from "P-R" and "D-J" programs is given functional supervision by the Department bookkeeper to maintain necessary accounting records.

RESEARCH PROGRAM

The Department's research program is, of course, based on the "P-R" and "D-J" grant programs. As noted above, the amounts devoted to research in the game and fish programs vary in an extreme fashion. The game research (or "Investigations") program in the years 1959 through 1963 has required an annual expenditure as low as $9,687 (three per cent of "P-R" money) to as much as

$68,797 (12 per cent of "P-R" money). The fishery **research** program has been no lower than 83 per cent of total "D-J" money and as high as 95 per cent. In dollar figures the latter has been as low as $135,182 and as much as $187,073, figures far in excess of the game **research** program even though the **entire** game ("P-R") program costs have consistently been far greater in total dollars.

The Game and Fish Department, of course, has adequate authority to engage in research programs using only state dollars or using the joint dollars of the "P-R" and "D-J" programs. It may use its own personnel, the personnel of other agencies and institutions (such as the University of Georgia), or some combination. Research projects are handled in a variety of ways and are variously financed, not all coming through federal grant programs.

Game Research

Georgia initiated research on wildlife populations and habitats in 1946-47. The program is intensive and extensive. Projects are organized into three units: (1) Statewide Wildlife Investigations, (2) Southeastern Cooperative Wildlife Disease Study, and (3) The Southern Cooperative Fish and Game Statistics Project. Georgia has participated, to its credit, in these two unique regional projects since their initiation.

Statewide Wildlife Investigations. The Department itself conducts the Statewide Wildlife Investigations, using biologists stationed throughout the State. In 1963-64 twelve such projects were underway. By these studies the Department investigates the status and trends in game populations, evaluates census techniques, determines the effects of insecticides and herbicides on wildlife, traps and bands mourning doves and wood ducks to determine their abundance and migrations, determines areas in need of stocking with deer and turkeys, evaluates its success in introducing exotic bird species, determines the effects of forest management practices on small game populations, and determines the effects of controlled burning in the Upper Piedmont on wildlife populations.

In 1962 the Department for the first time conducted a survey of hunters to determine the distribution of hunting pressure and the total harvest of each game species. A mailed questionnaire was used. Tabulations of responses provide a basis for planning game management and development programs.

The Department has made extensive attempts to identify and test exotic game birds which will establish themselves and thrive in Georgia forest lands. Currently the Department is concentrating on pheasant strains and the jungle fowl.

The Department is making its most intensive investigation at Albany, Georgia. Jointly with the U. S. Forest Service and the U. S. Bureau of Sport Fisheries and Wildlife, the Department is studying deer population characteristics, deer census methodology, and range status in a 750-acre enclosure at the Marine Corps Supply Center.

Southeastern Cooperative Wildlife Disease Study. The Department by annual contract (since 1957) with the School of Veterinary Medicine of the University of Georgia obtains diagnostic and research services on causes of disease outbreaks among game birds and mammals. The School gives highest priority to problems affecting wild, white-tailed deer but also emphasizes problems associated with public health and the livestock industry. The program extends to other cooperating states.

The University of Georgia contributes office space, laboratory facilities, consultation services of specialists, and one-half of the time of the project director. Participating states share the balance of the budget. The Georgia Department's cost for 1961-62 was approximately $3,800. For this modest investment it has obtained information on disease relationships between deer and livestock in addition to the special studies on particular disease problems.

TABLE I

EXPENDITURES AND REVERSIONS OF FEDERAL AID WILDLIFE (PITTMAN-ROBERTSON) AND FISH (DINGELL-JOHNSON) FUNDS, GEORGIA GAME AND FISH DEPARTMENT, 1958-64, All amounts (1) are rounded to the nearest dollar and (2) are the sum of federal (75%) and state (25%) shares, except for reversions. Reversions are federal funds only.

Item	1958-59 Amount	Percent	1959-60 Amount	Percent	1960-61 Amount	Percent	1961-62 Amount	Percent	1962-63 Amount	Percent	1963-64 Amount Anticipated	Percent
Wildlife Restoration Funds (P-R)												
Total expenditures	$280,013		$343,932		$319,992		$440,421		$504,658		$561,400	
Development	249,462	89	295,382	86	274,877	86	364,734	83	449,610	89	459,191	82
Investigations	9,687	3	13,848	4	18,543	6	53,069	12	35,090	7	68,797	12
Coordination	20,851	8	34,702	10	26,572	8	22,617	5	19,960	4	33,412	6
Lands	0	0	0	0	0	0	0	0	0	0	0	0
Total reversions	113,392		166,884		20,368		49,719		13,501		0	
Fish Restoration Funds (D-J)												
Total expenditures	168,274		150,024		180,196		225,300		213,989		186,735	
Investigations	158,524	94	135,182	90	164,609	91	187,073	83	184,663	86	176,298	95
Coordination	9,750	6	14,842	10	15,587	9	20,487	9	17,025	8	5,646	3
Development	0	0	0	0	0	0	17,740	8	12,301	6	4,791	2
Lands	0	0	0	0	0	0	0	0	0	0	0	0
Total reversions	11,150		8,488		679		0		0		0	

Southeastern Cooperative Fish and Game Statistics Project. This project is another regional joint venture, operated by annual contracts between the southeastern game and fish departments and the Department of Experimental Statistics of the North Carolina State College at Raleigh, North Carolina. The College biometricians provide consultation services, data analyses, and advice in planning research projects where sound sampling designs and procedures are important.

The Georgia Department's hunter mail survey of 1962 benefited from assistance of the College team. The Department also obtained help in planning creel censuses, evaluating mourning dove road counts, and completing analyses of data obtained in Department studies.

The Department, through cooperation in this program, obtains at a very nominal cost ($1,875 annually, two-thirds wildlife and one-third fishery) assistance which would be much more costly if Georgia had to provide its own staff or employ consultants periodically.

Fishery Research

The Department's fishery research program has been considerably more extensive and more expensive than the game and research program. Research has been directed toward problems in three primary programs: pond management, trout stream management, and large reservoirs. There have been substantially no marine fishery studies in recent years. The Department's primary research stations are at the Walton Hatchery and at the district headquarters at Fort Valley. Biologists, however, work throughout the state.

Pond Management Investigations. In its pond management studies, conducted largely in private farm ponds supplied with fish from state and national hatcheries, the Department biologists have concentrated on five primary subjects:

- Evaluation of various chemical and biological methods to control growth of large aquatic plants.
- Evaluation procedures to restore a balanced fish population to unbalanced ponds.
- Determination of supplemental fertilization needs required to increase and maintain production of fish food organisms.
- Appraisal of the relative success of using new combinations of fishes to stock ponds initially.
- Determination of fish diseases and reasons for pond failures.

Trout Stream Management Investigations. In its studies of trout stream management the Department has attempted to achieve three goals:

- Classify all streams in north Georgia for management of wild and stocked trout.
- Determine the extent stocked and wild trout are harvested in specified streams.
- Evaluate the effectiveness of various trout management measures, including stream improvements.

The research has been intended to develop facts required to establish sound trout stocking policies.

Reservoir Investigations. The Department has sought in its reservoir studies to:

- Determine characteristics of fish populations and of fish harvests.
- Evaluate the effectiveness of reservoir management practices, including establishment of fish nursery areas, release of cold water, and chemical control of vegetation.
- Determine feasibility and success of stocking trout in reservoir tailwaters and of stocking other species in selected waters.

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- Determine the best markers for tagging fish and, in selected reservoirs, determine the size of the fish population and the harvest.
- Evaluate the effects of various fishing regulations.

Results of Investigations. By its studies on both trout streams and reservoirs the Department has identified waters with minimal habitat for reproduction but good potential for growth of fishes. It has established (and continues to do so) stocking rates to secure maximum growth and survival to the fishing season. Through its studies the Department has created increased fishing opportunities, frequently in waters much closer to concentrations of people. Through other studies the Department has been able to manipulate fish populations by stocking and chemical treatment. Its studies will be of considerable assistance in improving tailwater fisheries management, an activity expected to be of increasing importance as more reservoirs are constructed to meet power, flood control, water supply, and other needs.

Over-all through its studies the Department has established a firm backlog of biological facts needed for its fish stocking program.

PROBLEMS IN THE GRANT AND RESEARCH PROGRAMS

In prior years the failure to provide adequate state dollars has "cost" Georgia extensive federal assistance. This situation, for now, appears to be corrected. Problems in the grant program are not serious if the revenue problems of the Department are met so that it can make maximum use of grant programs in the future. There remains, however, considerable imbalance in the use of the grant programs. The failure to acquire lands for public hunting and fishing, due to lack of state dollars primarily, will constitute a handicap as the Department moves to meet needs in the next few years for public hunting lands and fishing sites.

The variances in use of grants for game and fish for development and research investigations appears to be due partially to questionable classification of some projects. Careless accounting and classification and use of grant dollars can create serious problems. To date the Department has failed to acquire full rights to lands, nor has it been able to move adequately to obtain limited rights through easements, leases, and cooperative agreements.

The Department research program has been handicapped by considerably below average salaries and the dual use of biologists on both research and management tasks which detracts from an adequate research program. The 12 men working on game investigations can devote only 37 per cent of their time to research. Of 19 key fishery employees, only two are assigned full-time to investigations. This division of effort is frustrating to conscientious employees. They cannot produce high quality results on studies when attention is periodically diverted to management tasks and trouble-shooting activities. Neither can they fully analyze nor prepare for use in semi-popular and technical publications the information obtained in investigations.

Department biologists engaged in research tasks can now hope for advancement only if they move into administrative positions. This leads to the loss of dedicated, productive specialists whose talents and interests are more productively used in developing new knowledge and assembling and distributing facts important to planning programs for wildlife and fish conservation and development activities. Currently the Department tends to serve merely as a training ground for other states and federal agencies which desire investigative talents. Since 1958 a total of 13 wildlife biologists have left the Department.

Certain research needs have not been met including cost studies for trout stocking and warm-water fish stocking.

By far the most serious defects in the Department's research program are the complete voids in research of marine fish habitat, pollution control measures in inland and marine waters, and proper regulatory measures in respect to both marine habitat protection and harvesting.

PROPOSALS

In general the problems associated with use of federal dollars for game and with game research find their counterpart in problems associated with use of federal dollars for fish programs and with fishery research (other than the absence of any marine programs). Accordingly, proposals which fit one tend to fit the other major program of the Department.

Lands for Public Hunting and Fishing

In its efforts to meet demands for public hunting and fishing the Department is seriously handicapped by its lack of publicly-owned lands and the limits placed on it when negotiating for easements, leases, and other agreements for the use of privately-owned lands (See also Chapter VII on Game Management, pp. 80-83.) Extensive needs exist for access to rivers, reservoirs, and ponds for public fishing and for access to hunting lands for small and large game. (In the chapters on Game and Fisheries Management proposals are made to ease some of these needs.) Federal grants, with matching state dollars (3 to 1) can be used to acquire public ownership and to acquire lands with more restricted rights. These grants also can be used to develop lands for public use for hunting, fishing, and other outdoor recreations.

Recommendation No. 1

It is recommended that a more adequate land acquisition and development program be established and be financed to a larger degree with assistance from the Pittman-Robertson and Dingell-Johnson grant programs.

Since the lands thus acquired can be used for various recreation programs in addition to those associated directly with wildlife and fish, there is a general public benefit from acquiring lands and developing them for camping, hiking, picnicking, swimming, and other outdoor sports. (The Parks Department should undertake these developments, as pointed out in Chapter V.) These general public benefits justify the employment of State General Fund dollars to match the "P-R" and "D-J" grants.

Recommendation No. 2

It is recommended that the Department be provided more General Funds to assist in acquiring public fishing, launching, hunting, and access sites. General funds, boating registration fees, and gas tax rebates should supplement license monies to advance these essential projects.

(Note: The General Assembly has consistently appropriated more dollars from the State General Fund than have been received from fishing, hunting, and related license fees. The Governor's Commission agrees that more support should be provided; it does not see any necessary relationship between Department needs and the sources cited by the consultant.)

If lands are acquired for seasonal activities and necessary facilities are provided, seasonal maintenance chores will increase and become more widely scattered. Cooperative agreements and contractual arrangements with county highway departments, cities, and nearby private individuals would reduce costs for providing the needed maintenance services.

Recommendation No. 3

It is recommended that possibilities be fully explored for developing cooperative and contract arrangements to meet seasonal maintenance needs at the proposed public access sites because Department personnel cannot economically perform such services.

Use of Research Specialists

The present practice of assigning research personnel on a part-time basis to research and giving them administrative and trouble-shooting duties diverts them from important programs of much long-range benefit. The practice, particularly because of limited promotional opportunities in research, may encourage the better research biologists to leave the Department.

Recommendation No. 4

It is recommended that Department research employees be assigned to research tasks on a full-time basis.

(The Governor's Commission believes that special circumstances will, of course, interfere with this plan at times. Moreover, excessive specialization may reduce employee value and the employee's promotional opportunities.)

Recommendation No. 5

It is recommended that promotional opportunities be improved for qualified research employees so that they may remain in research activities, assume increasingly more difficult and complex research tasks, and receive appropriate recognition in rank and compensation.

Department research employees generally operate with much of their time spent in observing actual field conditions. They are in contact with the public and so can become aware of emerging game or fish interests. Being familiar with specific conditions and habitats in particular areas of the State, they are well equipped to handle (and probably have a higher interest in handling) applied research assignments. On the other hand they usually are not so well equipped with laboratories for and direct interest in fundamental research.

Recommendation No. 6

It is recommended that Department research employees focus their attention primarily on applied types of research.

They should study status and distribution of game or fish populations and habitats, characteristics of harvested wildlife and fish and results of the regulations in effect, success of innovations in stocking, banding and marking implications, etc. Their factual studies should be useful in developing a sound base for long-range planning and should aid in developing specific policies related to management of game or fish programs.

Recommendation No. 7

It is recommended that fundamental research be performed on a contract basis through university and similar groups.

Recommendation No. 8

It is recommended that the Department increase its contribution to the Cooperative Fisheries Research Unit at the University of Georgia to enhance the opportunities for fundamental research through this unit.

The contribution should immediately be increased to the originally expected level of $10,000 annually, and a further increase should be made when Department revenues increase from higher license fees.

Specific Research Programs and Activities

Although research programs have been quite useful in many Department activities, several significant voids exist:

Marine Fish Research. The State marine resources (discussed more fully in Chapter VI) need the benefit of competent research efforts aimed at determining the status of the marine fishery resources and the management opportunities and needs. The commercial and sport aspects of the marine resource demand adequate knowledge of the fishes, their population characteristics and habitat requirements, the content of appropriate regulations, the means of remedying habitat deficiencies, and similar matters. This resource potential is sufficiently impressive to justify quite significant annual expenditures for thorough and competent research and research facilities.

Recommendation No. 9

It is recommended that investigation on marine fishes be provided by establishing an adequate laboratory and a highly competent research staff on the coast as promptly as possible.

Coastal research work should be coordinated with efforts of the University of Georgia, neighboring states, and the U. S. Bureau of Commercial Fisheries. (This topic receives further attention in Chapter VI.)

Water Quality Research. The problems of water pollution and its effects on fish and game habitat are discussed extensively in Chapter X. The Department needs applied research to determine the extent of water quality problems affecting its programs and applied research to identify the source of fish kills, etc. Fundamental research into means of preventing and overcoming pollution are, of course, responsibilities of other agencies and persons. If the Department ultimately is charged with enforcement of any aspect of water quality laws, its research effort will, to a considerable degree, be concentrated on establishing the facts in any alleged violations.

Trout Stocking Economic Studies. The trout hatchery program has not been subjected to a careful cost analysis. Such a study would perhaps lead to improvements in production efficiency and reduced costs. It certainly would permit more careful evaluation of the level of special fees (trout stamps), more precise measurement of the stocking requirements, and more careful determination of the proper relationship between the various aspects of the trout program. Such a study might establish the cost to produce a trout to stocking size, the cost of a stocked trout in the fisherman's creel, the impact of trout stocking on the economy of communities near the trout streams, and the proportion of total cost borne by the general public.

Recommendation No. 10

It is recommended that an objective economic study of trout stocking be conducted immediately.

Reservoir Fish Populations. Although much information has been collected, more knowledge is needed to manage fish populations in reservoirs. Immediate needs are to (1) establish periodically the basic limnological features, (2) determine the needs and possibilities for introducing certain fishes and manipulating existing fish populations, and (3) evaluating effects of fishing regulations on fish populations. Because each reservoir is an individual management area, furnishing thousands of recreational opportunities annually, investment in objective studies is justified.

Recommendation No. 11

It is recommended that investigations be continued to establish additional knowledge needed to manage reservoir fish populations effectively.

X. WATER POLLUTION AND FISH AND GAME RESOURCES

While polluted water adversely affects the habitat for game, its principal effects are on fish. This study is, therefore, concerned with the effects of water pollution on Georgia fish and with the problems of reducing pollution. Polluted water very adversely affects many other uses, including agriculture, industry, water supplies for municipalities, water sports, and other recreational uses.

EFFECTS OF POLLUTION ON FISH

Fish are found in a variety of natural waters, ranging from pure mountain brooks to the complex known as seawater. An intricate interplay of chemical, physical, and biological factors determine the species of fish present in a body of water. Man, through his activities, adds to natural waters pollutants which may change the character of these factors. These changes, in turn, may alter or destroy fish populations. All too frequently, fish which are most highly prized for sport and food demand water of the highest quality.

Pollutants adversely affect fish, directly and indirectly, in a variety of ways which change habitat conditions through oxygen depletion, changing temperature, introducing or increasing toxicity, increasing acidity, increasing dissolved salt, increasing turbidity and sedimentation, destruction of food organisms, destruction of spawning grounds or blocking migration channels, and the accelerated aging of ponds and lakes.

Oxygen requirements of fish are determined, in part, by water temperature, species, activity, stress, water velocity, age, and life stage. The decomposition of deposited and suspended organic contaminants results in the formation of hydrogen sulphide, methane, carbon dioxide, ammonia, and other gases. This process may consume much oxygen and contribute heavily to fish mortality.

Accelerated photosynthesis, by planktonic algae stimulated by the fertilizing effect of wastes containing carbon, nitrogen, and phosphorus, results in supersaturation of oxygen during daylight hours and the opposite condition at night due to respiratory demands. Heavy algal blooms causing daytime supersaturated conditions of up to and in excess of two hundred per cent (200%) saturation of dissolved oxygen and caustic pH conditions have been reported to cause significant fish kills. More important, however, these heavy blooms cause heavy nighttime demands upon the dissolved oxygen resources of the water, lowering them to levels incapable of supporting most acquatic life.

Fish vary considerably in their tolerance to temperature changes and to abruptness of change. Fish living in stable temperatures are apt to be extremely sensitive to change. High and low temperatures may kill fish directly. However, temperature changes need not be physiologically harmful to cause damage in the habitat. In the case of coldwater fish, such as trout, a two or three degree rise in the average summer water temperature can cause interspecific competition with warmwater fish which will virtually eliminate the trout.

Wastes which alter the pH of the water to less than five or to greater than nine are usually directly toxic to all fish. Water pH also influences toxicity or persistence of some pollutants. Suspended solids reduce light penetration and thereby decrease or eliminate the production of planktonic and benthic algae, thus reducing the biological productivity of water. Abrasive suspended solids affect gill filaments by causing direct mechanical damage and promoting susceptibility to secondary fungal infections. They also destroy fish-food organisms by molar action. Colloidal suspended solids cause clogging of gill membranes. Numerous other problems for fish arise from pollutants. By blocking migration to spawning grounds pollution may also eliminate an entire year-class of the fish population.

Another aspect of water pollution is its effect on marketability of aquatic products. Although sewage may have no direct effect on the growth, production, and food value of shellfish, such contamination results in the legal closure of fishing beds because of the danger from pathogenic bacteria. Similarly, pesticide residues in shell and fin-fish may reach levels that are considered unsafe for human consumption. Taste also may be affected.

POLLUTION LOADS IN GEORGIA WATERS

The major sources of definable pollution are municipal and industrial wastes. According to the report of the U. S. Study Commission, Southeast River Basins, which included ninety percent (90%) of the State of Georgia (all river basins except the Coosa and the Tennessee), organic waste from these sources exerted an effect upon Georgia's waters equivalent to a population of six million persons. Approximately one-third came from municipal sources, and two-thirds from industry. Before treatment these wastes had a population equivalent of 7.5 million. Thus twenty percent (20%) of the organic load was removed by treatment. This compares with stated goals of the Georgia Department of Public Health of eighty to ninety percent (80% to 90%) removal.

Inorganic wastes from mining, quarrying, and gravel washing are considered by knowledgeable persons in the resource field to be no small problem in Georgia. Toxic materials discharged with industrial wastes, although not all catalogued, in many instances have caused intermittent fish kills. The urban runoff from 5,000 square miles exerts extensive oxygen demands upon the receiving streams, and the rural runoff from 42,000 square miles of farm land adds quantities of silt, fertilizers, and pesticides.

Operation of the major multi-purpose dams and reservoirs in Georgia used for hydropower production results in fluctuating downstream flows of major effect on downstream fish resources. Low-level discharge from reservoirs containing little or no dissolved oxygen is considered to be a significant pollution problem. Temperature fluctuations from released waters, which occur when the reservoirs are thermally stratified, is of significance to the fishery resources. There are eight major steam power plants in Georgia which discharge heated cooling water to Georgia streams. These problems are extremely difficult to solve as water quality was given little or no consideration in the design and financing of these projects.

POLLUTION DAMAGE TO FISHERY OF GEORGIA

Not all Georgia waters are polluted, but pollution is a problem at points along every major river and many of their tributaries; and gross pollution exists in many extensive reaches of major rivers.

Fresh Waters

Conditions of Georgia rivers have been subjected to studies at various times. Most of them present problems at one point or another.

Savannah River. The Savannah River above Clark Hill Dam is relatively free from pollution, except for localized, sometimes heavy pollution in tributary streams. In the Augusta and Savannah areas reaches of the main stem are polluted from the discharge of untreated municipal and industrial wastes. Below Savannah the river is at times entirely depleted of oxygen and extensive mobile sludge banks have been reported.

Ogeechee River. At the time of a 1961 study, freshwater streams in the Ogeechee basin did not exhibit widespread pollution; and existing pollution was largely confined to localized areas immediately downstream from municipal and industrial outfalls. Some natural pollution from discharge of swamps and marsh waters to the surface streams of the basin were noted.

Altamaha Basin. The Altamaha is severely polluted in many of its reaches. South River, a principal headwater tributary, receives waste from Atlanta. The Ocmulgee River is degraded as a fishing stream by wastes from Macon and Warner Robins. The Oconee is polluted near its source by municipal, poultry, and fertilizer wastes in the Athens and Jefferson areas, and by wastes from the prison, textile mills, and other sources in the Milledgeville area. Kaolin mine wastes near the Fall Line have converted many miles of fishing streams into sediment ponds. Fish kills have been reported in the Altamaha below Jesup. In the past, slime growths triggered by industrial wastes have so fouled fishermen's nets that the commercial shad fishery had to

be abandoned, despite economic loss. Treatment processes recently installed apparently have corrected this situation. In 1963 near Winder on the Apalachee River, where an industrial firm dumped acid, a fish kill of every species of fish for eleven miles downstream was reported.

Satilla-St. Marys Rivers. The streams of this Basin are relatively free from pollution other than that associated with swamp and marsh drainage.

Suwannee River. With the exception of the Withlacoochee River, freshwater streams in this basin are relatively free of municipal and industrial pollution. The Withlacoochee is reported to have been polluted by industrial wastes at Adel and by municipal wastes from Valdosta. Fish kills have also been reported in Okapilco Creek which receives municipal and industrial waste discharges from the Moultrie and Quitman areas. Natural drainage of swamp and marsh lands also degrades waters in the basin.

Ochlockonee River. Since 1956 frequent fish kills have been reported with several at or near the State line and below Moultrie. Industrial waste from the Cairo area and municipal discharges from the Thomaston area have also been reported to degrade water quality in several tributaries to the Ochlockonee. In 1963 waste killed fish for ten miles below Cairo on the Ochlockonee and for four miles on Petlit Creek.

Chattahoochee and Flint Rivers. Several serious pollution problems occur in these waters. The Chattahoochee below Atlanta has long been polluted from municipal waste discharge from the metropolitan area of Atlanta and from discharge of heat pollutants from steam power plants in the area. River flows regulated by Buford Dam have at times been insufficient to assimilate the waste loads being discharged to the river. Game fish have long been absent below the points of waste discharge.

Below the Columbus-Phenix City area, the Chattahoochee is used primarily for the disposal of untreated municipal and industrial wastes. The major sources of these wastes are Columbus, Fort Benning, Phenix City, and Eufaula. The waters have been found unsafe for recreational uses, and a fish kill extending 30 miles downstream from the Walter F. George Dam was reported in 1963. Accumulated organic matter, both man-made and natural, and the low level discharge of water from the Dam were considered primary causes of the almost completely deoxygenated waters which resulted in the kill.

The upper reaches of the Flint River arm of Lake Seminole are polluted from untreated wastes from Bainbridge, but no serious effects on fishing have been reported. Big Slough Creek, a tributary to the Flint, has been reported polluted from industrial wastes of the Cornelia area.

Coosa River. A tributary of the Coosa, the Chattooga River, was found to be polluted by sewage and industrial wastes (from the Trion and Summerville areas) which reduced dissolved oxygen levels to zero at Summerville and resulted in major fish kills in 1961 and 1962.

The Coosa, contaminated by raw sewage from Rome, was found in both Georgia and Alabama to have bacterial content considered unsatisfactory for water contact recreation. The Coosa and its tributaries were also polluted by industrial wastes from the Lindale and Rome areas which reduced dissolved oxygen to a point considered critical for the fish and acquatic environment. Both the Etowah and Coosa Rivers were found to be polluted by silt and clay from mineral washings from Georgia mining operations, and bottom organisms and algea normally serving as fish food were seriously degraded.

Marine Waters

The Georgia coastal area is some 115 miles in length, extending from the Savannah River Basin to the St. Marys Basin. A large part of this area is covered by marsh lands fed by small, estuarine streams. Primary game and fish uses along the coast include commercial and sport fin and shellfishing, and to a lesser extent waterfowl hunting.

Unfortunately, complete information and data on the area and its fish and wildlife resources are lacking. Local persons familiar with the area and Department biologists and other informed persons agree that the type of coast (topography, vegetation, etc.) is most favorable for saltwater fish and waterfowl.

A cooperative industry-State-Federal program exists for the certification of the quality of shellfish (oysters, clams, and mussels). The program includes periodic inspection of growing areas by sanitary surveys and analysis of overlying waters for coliform bacteria. When sanitary conditions do not meet standards, the State Health Department closes polluted areas. The following areas have been closed to harvesting shellfish for the entire year of 1963-64:

Wassaw or Savannah area. This area includes the mouth and lower reaches of the Savannah River, the south channel of the Savannah River, the Tybee River, the Wilmington River, the Skedaway River, and other minor tributaries. Closed acreage in the Savannah area is estimated at 7,000 acres. All of this area is subjected to domestic and industrial wastes from the City of Savannah.

St. Catherines area, Sapelo area, Doboy area, Altamaha area, St. Andrews area. All of these areas are reportedly polluted by domestic sewage from individual dwellings. The areas include the St. Catherine with two tributaries with an estimated 2,000 acres, Sapelo and seven tributaries with 2,000 acres, Doboy with 11 tributaries for an additional 2,000 acres, the Altamaha main river stem and bay with an area of 10,000 acres, and the St. Andrews with an approximate area of 6,000 acres. Individual dwellings apparently are polluting approximately 22,000 acres in these five areas.

St. Simons area. This area of approximately 14,000 acres is subjected to the domestic municipal and industrial waste discharges from the City of Brunswick.

Cumberland area. This area of approximately 3,000 acres is polluted by an unknown source.

St. Marys area. Approximately 900 acres in the St. Marys River are reported to be polluted by the domestic sewage of the community of St. Marys, Florida.

Over-all there are 74 areas and approximately 46,900 acres now closed to shellfish harvesting because of pollution.

There is, of course, an economic loss associated with pollution which affects a commercial product such as shellfish. **For Georgia there appears to be an economic loss of approximately $5.9 million annually.** Exact information on production of shellfish per acre is not known for Georgia, but amounts range from 100 to 150 bushels per acre per year in other similar areas. Using an average of 125 bushels (500 pounds) per acre per year, the total amount of catch **not** harvested from these 46,900 acres approximates 23.5 million pounds. At a value of $0.25 per pound, the value reported in the 1960 Fish and Wildlife census for shellfishing in Georgia, this amounts to $5.9 million per year.

Pollution is not, of course, the only problem affecting the shellfishing industry in Georgia; but it is a major one, according to commercial fishermen and Department rangers. The Department, as noted elsewhere, does not have marine biologists who can be assigned to seek solutions to the many marine fishery resource problems in the coastal area. That this is an important economic problem is clearly discernible from the accompanying chart, Exhibit 1, which shows that the oyster catch in Georgia today is far below that at the turn of the century. South Carolina, on the other hand, has maintained production at relatively consistent levels throughout the century.

GOVERNMENTAL ACTION AND POLLUTION

In Georgia, the Georgia Board of Health is the State agency responsible for control of water pollution. The Georgia Water Quality Control Act of 1957 placed this responsibility on the Board but also created a Water Quality Council to make recommendations to the State Board of Health

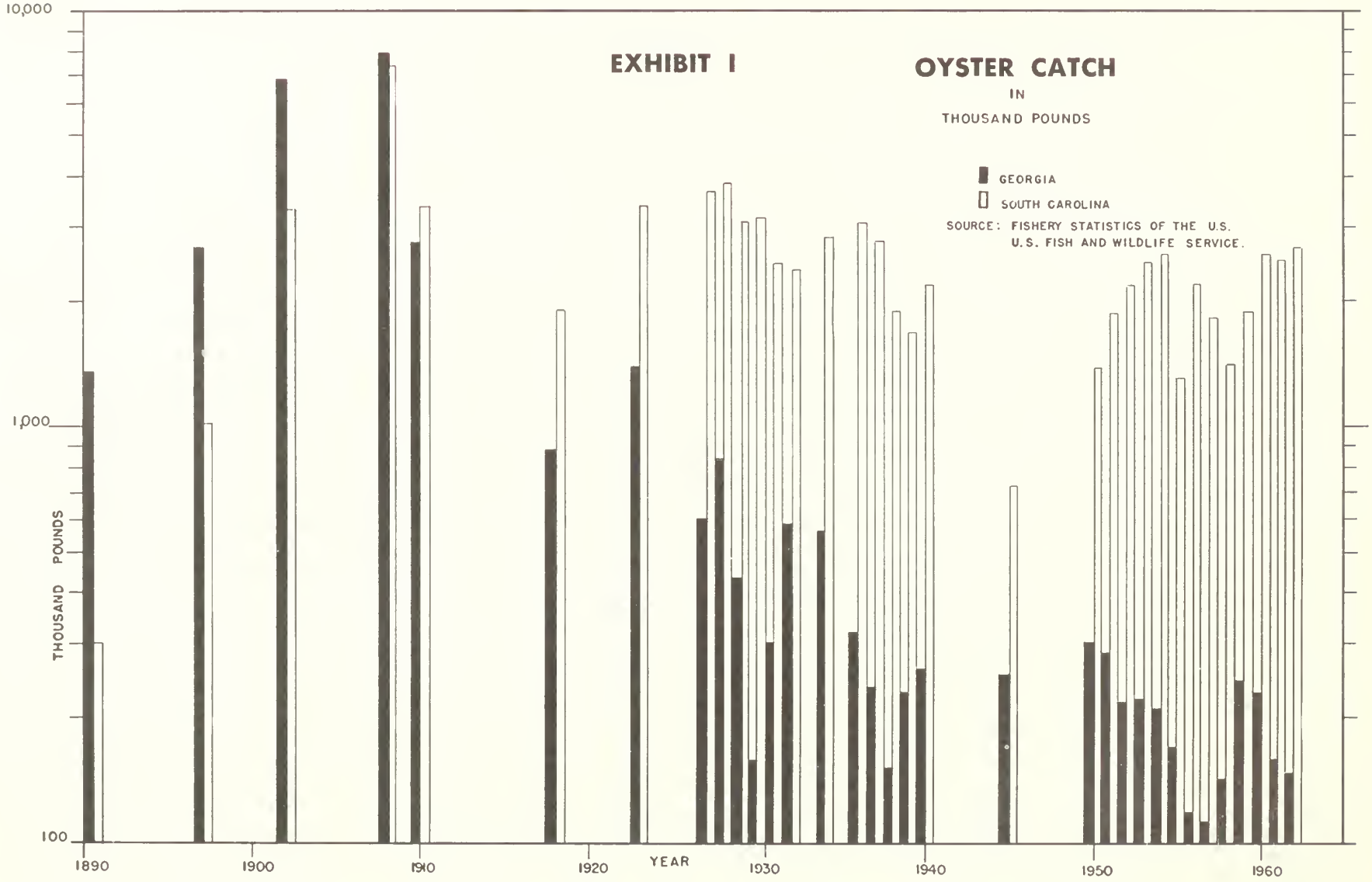
EXHIBIT I
OYSTER CATCH
IN
THOUSAND POUNDS
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SOUTH CAROLINA
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10,000
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regarding rules, regulations, procedures, policies, standards, and waste disposal certificates. The Council also has the power to review and take such action as it deems appropriate on orders or actions of the Board of Health; but, subject to such review and to review by the Courts, the Board has broad authority to establish water quality standards; establish policies including quality standards applicable to source, treatment, and distribution of water supply; make studies; issue certificates covering operation of water supply and municipal and industrial waste disposal facilities; to issue orders, after hearing, directing that reasonable and practicable operating results be obtained in the control, abatement, and prevention of pollution by persons subject to the orders; and exercise necessary incidental powers.

The Water Quality Council is composed of eleven members, four state officials serving ex officio during their terms and seven citizens appointed by the Governor to overlapping four year terms from a "list of names submitted by the trade or other association appropriate to the interest to be represented. . . ." The "interest" representatives are selected to represent Conservation, Municipal Government, Soil Conservation, Agriculture, Textile Industry, Pulp and Paper Industry, and the Food Processing Industry.

In the past, it appeared that the Water Quality Council has been reluctant to direct the State Health Department to proceed against polluters. This situation is reported to be changing as a result of public attention being directed to Georgia's pollution situation.

Within the Health Department a Water Resources Service with 14 full-time employees, including engineers and chemists but no biologists, is responsible for Health Department action on pollution. For fiscal 1964 the Service has a budget of $258,315, of which $109,800 is supplied from federal grants.

The proper solution to administration of the water pollution control problem has been under study by a committee of the General Assembly. Advocates of different approaches will doubtless point to the fact that there are three patterns prevalent among the 50 States today. In 20 states water pollution control is a responsibility of the state health department, in 10 states there are statutory agencies within (but also outside) the Health Department (such as the Georgia Quality Council) and in 20 states an agency or department completely independent of the health department has this responsibility.

The Director of the Game and Fish Department is by law one of the ex officio members of the Georgia Water Quality Council. In practice, the Chief of the Fishery Division has been assigned to substitute for the Director on the Council. The representative of the Department has exerted leadership in the Council and has contributed to an increasingly active role by the Council in seeking corrective action by alleged polluters.

The Game and Fish Department itself has no powers in regard to pollution control beyond enforcing regulations of the State Health Department regarding the harvesting of shellfish in coastal areas. Offenders are charged by the usual procedures for violating game and fish laws or regulations. The Fisheries Division does perform simple field tests to determine water quality conditions where pollution or fish kills are reported, and the Chief of the Division reports these findings to the Water Quality Council. The Fishery Division cannot, however, bring actions against persons responsible for fish kills; nor can it access fines or collect damages from such persons, a power vested in such departments in a number of the states. There is no way the Game and Fish Department now can proceed against municipalities or industries which destroy or endanger fishery resources.

FINDINGS AND CONCLUSIONS

Problems associated with water pollution in Georgia can be succinctly stated:

- The freshwater fishery resources of Georgia are severely damaged by both industrial and municipal wastes.

At least 12 major fish kills occurred in 1963, destroying thousands of pounds of game fish.

- The saltwater fishery resources of Georgia also are severely damaged with a significant economic loss directly attributable.

  Nearly 47,000 acres of shellfish harvesting acres are closed because of bacterial pollution from domestic and municipal sewage. The annual loss from the closing of these oyster beds is estimated at $5.9 million.

- The water pollution control program has not been responsive to the needs of the State Game and Fish Department.

  The control program is not technically oriented or administratively dedicated toward solving pollution problems adversely affecting fishery resources.

  The State water pollution control program is severely hampered by legal limitations.

  The Game and Fish Department lacks legal authority to control pollution which adversely affects fishery resources.

  The Game and Fish Department is not staffed to cope with pollution of marine waters, nor to determine the effects of pollution, nor the proper steps to conserve marine resources.

PROPOSALS

From the conclusions stated, a number of recommendations logically follow.

Recommendation No. 1

It is recommended that the State enact strengthened water pollution control laws which would provide for:

(a) Control of pollution from all sources: municipal, industrial, land use, water use, individual dwellings, etc.

(b) Penalties adequate to make the laws enforceable.

(c) Protection of water quality of public waters for all legitimate water uses.

Recommendation No. 2

It is recommended that existing policies regarding administration of the State's water pollution control program be changed to:

(a) Give greater emphasis to the control of industrial wastes.

(b) Respond readily to needs of the fishery resource.

(c) Provide coordinated effort by all agencies in a more sophisticated, comprehensive approach.

Recommendation No. 3

It is recommended that legislation be enacted to give the Game and Fish Department primary responsibility for legal action against pollution adversely affecting the fishery resources. This legal authority should include:*

*California, Pennsylvania, Illinois, North Carolina, Virginia, and Wisconsin are states in which the department charged with wildlife conservation is exercising substantially these powers.

(a) Collection of monetary damages for fish kills.

(b) Assessment of fines, by court action, for damaging fishery resources.

(c) Securing of court injunctions to prevent pollution affecting the fishery resources.

(For the position of the Governor's Commission on this recommendation pleose see Recommendotion No. 12 in the Commission's Report.)

Recommendation No. 4

It is recommended that the Game and Fish Department employ a marine biologist to study effects of pollution on marine fishery resources and initiate legal action against polluters under authority to be granted by the legislation requested above.

Recommendation No. 5

It is recommended that the Game and Fish Department employ a biologist with competency in chemistry to devote full time to studying the effects of pollution upon freshwater fishery resources and, where necessary, initiate legal action to abate pollution.

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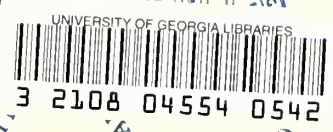
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